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L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2006-583553/APPS

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YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2005:564677 HCAPLUS Full-text  
 DOCUMENT NUMBER: 143:60090  
 TITLE: Specific process for preparing silicon compounds bearing fluoroalkyl groups by hydrosilylation  
 INVENTOR(S): Just, Eckhard; Giessler, Sabine; Jenkner, Peter  
 PATENT ASSIGNEE(S): Degussa A.-G., Germany  
 SOURCE: PCT Int. Appl., 19 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005058919	A1	20050630	WO 2004-EP52608	20041021
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10361893	A1	20050721	DE 2003-10361893	20031219
EP 1694687	A1	20060830	EP 2004-791275	20041021
EP 1694687	B1	20070711		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1894262	A	20070110	CN 2004-80037997	20041021
JP 2007514708	T	20070607	JP 2006-544399	20041021
AT 366736	T	20070815	AT 2004-791275	20041021
US 2007112213	A1	20070517	US 2006-583553	20060619 <--
PRIORITY APPLN. INFO.:			DE 2003-10361893	A 20031219
			WO 2004-EP52608	W 20041021

OTHER SOURCE(S): CASREACT 143:60090; MARPAT 143:60090

ED Entered STN: 30 Jun 2005

AB The present invention relates to a process for preparing silicon compds. bearing fluoroalkyl groups by hydrosilylation of a fluoroolefin in the presence of a hydrosilylation catalyst, which comprises initially charging and heating a hydrogen chlorosilane, then metering in the fluoroolefin and reacting the reaction mixture and subsequently isolating the hydrosilylation product. Thus, platinum divinyltetramethyldisiloxane complex catalyzed hydrosilylation of 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctene with trichlorosilane in xylene at 5.7-7.5 bar at 106°-124° gave 93% trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane in 4.8h.

IC ICM C07F007-08  
 CC 29-6 (Organometallic and Organometalloidal Compounds)  
 ST silane fluoroalkyl prepn; platinum divinyltetramethyldisiloxane complex  
 catalyzed hydrosilylation fluoro olefin  
 IT Alkenes, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (fluoro; preparation of silicon compds. bearing fluoroalkyl groups by  
 platinum divinyltetramethyldisiloxane complex catalyzed hydrosilylation  
 of fluoroolefin)  
 IT Hydrosilylation  
 Hydrosilylation catalysts  
 (preparation of silicon compds. bearing fluoroalkyl groups by platinum  
 divinyltetramethyldisiloxane complex catalyzed hydrosilylation of  
 fluoroolefin)  
 IT 81032-58-8  
 RL: CAT (Catalyst use); USES (Uses)  
 (preparation of silicon compds. bearing fluoroalkyl groups by platinum  
 divinyltetramethyldisiloxane complex catalyzed hydrosilylation of  
 fluoroolefin)  
 IT 677-21-4, 3,3,3-Trifluoro-1-propene 1428-33-7, 1,1,2,2-Tetrafluoroethyl  
 allyl ether 10025-78-2, Trichlorosilane 21652-58-4 25291-17-2  
 30389-25-4 67103-05-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of silicon compds. bearing fluoroalkyl groups by platinum  
 divinyltetramethyldisiloxane complex catalyzed hydrosilylation of  
 fluoroolefin)  
 IT 78560-45-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of silicon compds. bearing fluoroalkyl groups by platinum  
 divinyltetramethyldisiloxane complex catalyzed hydrosilylation of  
 fluoroolefin)  
 REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L2 1 SEA FILE=WPIX ABB=ON PLU=ON US2006-583553/APPS

=> d iall code 12

YOU HAVE REQUESTED DATA FROM FILE 'WPIX' - CONTINUE? (Y)/N:y

L2 ANSWER 1 OF 1 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 2005-479310 [48] WPIX  
 DOC. NO. CPI: C2005-145947 [48]  
 TITLE: Preparation of fluoroalkyl-bearing silicon compound, e.g.  
 fluoroalkylchlorosilane, by hydrosilylation comprises  
 initially charging and heating hydrogenchlorosilane and  
 then metering in fluoroolefin  
 DERWENT CLASS: E11  
 INVENTOR: GIESSLER S; JENKNER P; JUST E  
 PATENT ASSIGNEE: (DEGS-C) DEGUSSA AG; (GIES-I) GIESSLER S; (JENK-I)  
 JENKNER P; (JUST-I) JUST E; (DEGS-C) DEGUSSA GMBH  
 COUNTRY COUNT: 107

# PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA PG	MAIN IPC
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WO 2005058919	A1	20050630	(200548)*	EN	19[0]
DE 10361893	A1	20050721	(200548)	DE	
EP 1694687	A1	20060830	(200657)	EN	
US 20070112213	A1	20070517	(200734)	EN	
JP 2007514708	W	20070607	(200739)	JA	18
CN 1894262	A	20070110	(200740)	ZH	
EP 1694687	B1	20070711	(200746)	EN	
DE 602004007549	E	20070823	(200757)	DE	

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2005058919	A1	WO 2004-EP52608	20041021
DE 10361893	A1	DE 2003-10361893	20031219
CN 1894262	A	CN 2004-80037997	20041021
EP 1694687	A1	EP 2004-791275	20041021
EP 1694687	B1	EP 2004-791275	20041021
EP 1694687	A1	WO 2004-EP52608	20041021
US 20070112213	A1	WO 2004-EP52608	20041021
JP 2007514708	W	WO 2004-EP52608	20041021
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DE 602004007549	E	DE 2004-602004007549	20041021
DE 602004007549	E	EP 2004-791275	20041021
DE 602004007549	E	WO 2004-EP52608	20041021

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 1694687	A1	WO 2005058919 A
JP 2007514708	W	WO 2005058919 A
EP 1694687	B1	WO 2005058919 A
DE 602004007549	E	EP 1694687 A
DE 602004007549	E	WO 2005058919 A

PRIORITY APPLN. INFO: DE 2003-10361893 20031219

## INT. PATENT CLASSIF.:

IPC ORIGINAL: C07F0007-00 [I,A]; C07F0007-00 [I,C]; C07F0007-00 [I,C];  
C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-08 [I,A]

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-14 [I,A]

## BASIC ABSTRACT:

WO 2005058919 A1 UPAB: 20051223

NOVELTY - Preparing a silicon compound bearing fluoroalkyl group(s) by hydrosilylation of a fluoroolefin in the presence of a platinum-containing hydrosilylation catalyst comprises initially charging and heating a hydrogenchlorosilane; then metering in the fluoroolefin and reacting the reaction mixture; and subsequently isolating the hydrosilylation product.

USE - For preparing fluoroalkylchlorosilanes and fluoroalkylalkoxysilanes.

ADVANTAGE - The invention prepares fluoroalkylchlorosilanes on an industrial scale in a simple economical and reliable manner by hydrosilylation of fluoroolefins in the presence of a platinum catalyst, even on an industrial scale and without unexpected catalyst deactivation, when a fluoroolefin having a very low iodide or iodine content is used.. The process of the invention has reduced sensitivity of the reaction to impurities in the olefin, since if the reaction does not start, the process can be stopped in good time. As a result, the extremely

expensive fluoroolefin is saved and the fluoroolefin does not have to be discarded as an unusable mixture. The process can be operated at a higher temperature, which results in even better utilization of the catalyst activity.

MANUAL CODE: CPI: E05-E01C; E05-E02B; E05-E02C; E05-E02D; E11-H;  
N02-F; N07-D

AN 2005-479310 [48] WPIX

DC E11

IPCI C07F0007-00 [I,A]; C07F0007-00 [I,C]; C07F0007-00 [I,C]; C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-08 [I,A]

IPCR C07F0007-00 [I,C]; C07F0007-14 [I,A]

MC CPI: E05-E01C; E05-E02B; E05-E02C; E05-E02D; E11-H; N02-F; N07-D

CMC UPB 20051223

DRN: 1998-S

DCR: 129547-S 2194-S

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M315 M321 M332 M344 M361 M391 M411 M510 M520 M530 M540 M620 M720  
N164 N209 N213 N263 N309 N353 N441 N513 M905 M904

DCN: RA05F1-K RA05F1-P

DCR: 207474-K 207474-P

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G032 G039 G040 G050 G051 G100 G111 G112 G113 G221 G299 G553 G563  
H541 H542 H543 H581 H582 H583 H584 H594 H598 H599 H6 H601 H608  
H609 H643 H681 H682 H683 H684 H685 H689 M121 M122 M123 M124 M125  
M126 M129 M144 M210 M211 M212 M213 M214 M215 M216 M220 M221 M222  
M223 M224 M225 M226 M231 M232 M233 M250 M272 M280 M281 M282 M283  
M311 M312 M313 M314 M315 M316 M321 M322 M323 M331 M332 M333 M334  
M340 M342 M343 M344 M351 M361 M362 M373 M391 M392 M393 M411 M510  
M520 M530 M531 M532 M533 M540 M541 M542 M543 M620 M720 N164 N209  
N213 N263 N309 N353 N441 N513 M905 M904

MCN: 0200-30401-K 0200-30401-P

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M411 M730 M905 M904

DCN: R03423-K R03423-S

DCR: 356-K 356-S

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M363 M391 M416 M730 M905 M904

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DCR: 25918-K 25918-S

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M411 M510 M520 M530 M540 M730 M770 Q421 M905 M904

DCN: RA00AL-C RA00AL-K

DCR: 200553-C 200553-K

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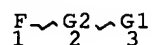
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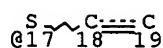
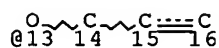
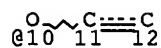
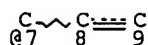
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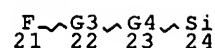
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Si 20

Cy @4



PRO



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VAR G2=AK/4

VAR G3=AK/CY

REP G4=(0-20) A

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

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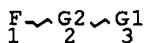
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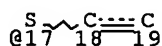
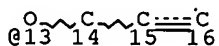
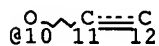
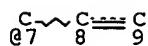
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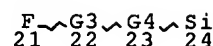
RRT

Si 20

Cy @4



PRO



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VAR G2=AK/4

VAR G3=AK/CY

REP G4=(0-20) A

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 24

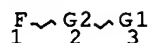
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L21

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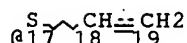
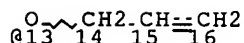
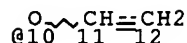
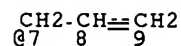
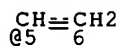
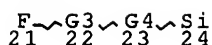
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RRT

Si 20

PRO



RRT

Pt 25

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VAR G2=AK/CY

VAR G3=AK/CY

REP G4=(0-20) A

NODE ATTRIBUTES:

NSPEC IS RC AT 25

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

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6 VERIFIED

5 HIT RXNS

1 DOCS

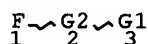
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L18

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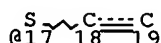
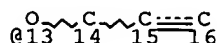
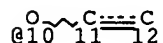
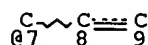
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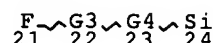
RRT

Si 20

Cy @4



PRO



VAR G1=5/7/10/13/17

VAR G2=AK/4

VAR G3=AK/CY

REP G4=(0-20) A

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

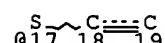
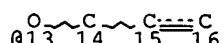
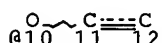
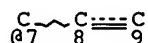
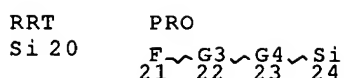
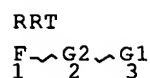
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L24

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VAR G2=AK/4

VAR G3=AK/CY

REP G4=(0-20) A

NODE ATTRIBUTES:

NSPEC IS RC AT 25

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 25

STEREO ATTRIBUTES: NONE

L26 2 SEA FILE=CASREACT SUB=L20 SSS FUL L24 ( 6 REACTIONS)

100.0% DONE 6 VERIFIED 6 HIT RXNS 2 DOCS

SEARCH TIME: 00.00.01

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 L21 STR  
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 L24 STR  
 L26 2 SEA FILE=CASREACT SUB=L20 SSS FUL L24 ( 6 REACTIONS)  
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 L29 29 SEA FILE=CASREACT ABB=ON PLU=ON L28 OR L23 OR L26  
 L31 7 SEA FILE=CASREACT ABB=ON PLU=ON L20 AND (?H2PT?/BI,AB)  
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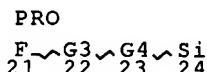
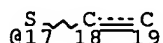
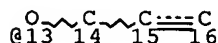
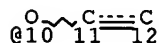
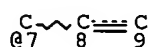
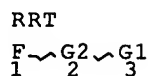
L18 STR  
 L20 294 SEA FILE=CASREACT SSS FUL L18 ( 2129 REACTIONS)  
 L21 STR  
 L23 1 SEA FILE=CASREACT SUB=L20 SSS FUL L21 ( 5 REACTIONS)  
 L24 STR  
 L26 2 SEA FILE=CASREACT SUB=L20 SSS FUL L24 ( 6 REACTIONS)  
 L28 29 SEA FILE=CASREACT ABB=ON PLU=ON L20 AND (PT?/BI,AB OR  
 ?PLATIN?/BI,AB OR HPT?/BI,AB)  
 L29 29 SEA FILE=CASREACT ABB=ON PLU=ON L28 OR L23 OR L26  
 L31 7 SEA FILE=CASREACT ABB=ON PLU=ON L20 AND (?H2PT?/BI,AB)  
 L32 31 SEA FILE=CASREACT ABB=ON PLU=ON L31 OR L29  
 L33 QUE ABB=ON PLU=ON JUST, E?/AU  
 L34 QUE ABB=ON PLU=ON GIESSLER, S?/AU

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L35 QUE ABB=ON PLU=ON JENKNER, P?/AU  
 L36 QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA  
 L37 QUE ABB=ON PLU=ON AY<2005 OR PY<2005 OR PRY<2005 OR MY  
 <2005 OR REVIEW/DT  
 L39 2 SEA FILE=CASREACT ABB=ON PLU=ON L32 AND (L33 OR L34 OR L35  
 OR L36)  
 L40 29 SEA FILE=CASREACT ABB=ON PLU=ON L32 NOT L39  
 L41 26 SEA FILE=CASREACT ABB=ON PLU=ON L40 AND L37

=> d que stat 143

L18 STR



VAR G1=5/7/10/13/17

VAR G2=AK/4

VAR G3=AK/CY

REP G4=(0-20) A

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

L43 117 SEA FILE=CHEMINFORMRX SSS FUL L18 ( 385 REACTIONS)

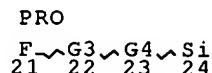
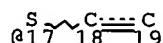
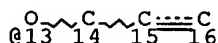
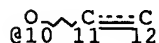
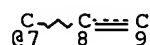
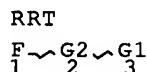
100.0% DONE 5245 VERIFIED 385 HIT RXNS

117 DOCS

SEARCH TIME: 00.00.41

=> d que stat 145

L18 STR



VAR G1=5/7/10/13/17

VAR G2=AK/4

VAR G3=AK/CY

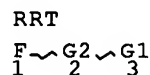
REP G4=(0-20) A

NODE ATTRIBUTES:

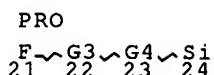
DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE  
 L24 STR



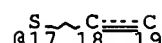
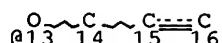
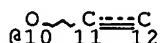
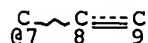
RRT  
 Si 20



Cy @4



RRT  
 Pt 25



VAR G1=5/7/10/13/17  
 VAR G2=AK/4  
 VAR G3=AK/CY  
 REP G4=(0-20) A  
 NODE ATTRIBUTES:  
 NSPEC IS RC AT 25  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 25

STEREO ATTRIBUTES: NONE

L43 117 SEA FILE=CHEMINFORMRX SSS FUL L18 ( 385 REACTIONS)  
 L45 0 SEA FILE=CHEMINFORMRX SUB=L43 SSS FUL L24 ( 0 REACTIONS)

100.0% DONE 0 VERIFIED 0 HIT RXNS 0 DOCS  
 SEARCH TIME: 00.00.02

=> d que nos 150

L18 STR  
 L37 QUE ABB=ON PLU=ON AY<2005 OR PY<2005 OR PRY<2005 OR MY  
 <2005 OR REVIEW/DT  
 L43 117 SEA FILE=CHEMINFORMRX SSS FUL L18 ( 385 REACTIONS)  
 L46 4 SEA FILE=CHEMINFORMRX ABB=ON PLU=ON L43 AND ((PT?/BI,AB OR  
 ?PLATIN?/BI,AB OR HPT?/BI,AB) OR (?H2PT?/BI,AB))  
 L47 0 SEA FILE=CHEMINFORMRX ABB=ON PLU=ON L43 AND ((PT?/TI OR  
 ?PLATIN?/TI OR HPT?/TI) OR (?H2PT?/TI))  
 L48 4 SEA FILE=CHEMINFORMRX ABB=ON PLU=ON L46 OR L47  
 L50 4 SEA FILE=CHEMINFORMRX ABB=ON PLU=ON L48 AND L37

=> d que 188

L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2006-583553/APPS  
 L3 TRANSFER PLU=ON L1 1- RN : 9 TERMS  
 L4 9 SEA FILE=REGISTRY ABB=ON PLU=ON L3  
 L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND "CL3 H SI"/MF

L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS AND CL/ELS  
 L7 7 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS  
 L8 6 SEA FILE=REGISTRY ABB=ON PLU=ON L7 NOT L6  
 L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND PT/ELS  
 L27 QUE ABB=ON PLU=ON PT? OR ?PLATIN? OR HPT?  
 L30 QUE ABB=ON PLU=ON ?H2PT?  
 L33 QUE ABB=ON PLU=ON JUST, E?/AU  
 L34 QUE ABB=ON PLU=ON GIESSLER, S?/AU  
 L35 QUE ABB=ON PLU=ON JENKNER, P?/AU  
 L36 QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA  
 L37 QUE ABB=ON PLU=ON AY<2005 OR PY<2005 OR PRY<2005 OR MY  
 <2005 OR REVIEW/DT  
 L51 QUE ABB=ON PLU=ON HYDROSIL? OR (HYDRO(W)(SILAT? OR SIL  
 YLAT?))  
 L52 QUE ABB=ON PLU=ON ?FLUOROOLEFIN? OR ?FLUOROALKEN? OR (  
 ?FLUOR? OR PERFLUOR? OR OLIGOFUOR? OR DIFLUOR? OR TRIFL  
 UOR?)(3A) (?OLEFIN? OR ?ALKEN?))  
 L53 QUE ABB=ON PLU=ON ?CHLOROSIL? OR ((?CHLOR? OR DICHLOR?  
 OR TRICHLOR?)(3A) (?SILYL? OR ?SILAN?)) OR (?SILYL?(1T)?C  
 HLORID?) OR (?SILYL?(1W)?CHLORID?)  
 L54 QUE ABB=ON PLU=ON ?CL6PT?  
 L55 QUE ABB=ON PLU=ON ?HEXACHLOROPLATIN?  
 L56 QUE ABB=ON PLU=ON ?CATALY?  
 L57 QUE ABB=ON PLU=ON F OR ?FLUORO? OR ?FLUORID?  
 L58 QUE ABB=ON PLU=ON ?FLUORIN?  
 L59 QUE ABB=ON PLU=ON CL OR CHLORINAT? OR ?CHLORO? OR ?CHL  
 ORID?  
 L60 QUE ABB=ON PLU=ON SI OR SILICON  
 L61 QUE ABB=ON PLU=ON "ALKENES, REACTIONS"+PFT,OLD,NEW,NT/  
 CT  
 L62 QUE ABB=ON PLU=ON ALKENES+PFT,OLD,NEW/CT (L) (L57 OR L  
 58)  
 L63 QUE ABB=ON PLU=ON L61 (L) (L57 OR L58)  
 L64 QUE ABB=ON PLU=ON HYDROSILYLATION+PFT,OLD,NEW,NT/CT  
 L65 QUE ABB=ON PLU=ON "HYDROSILYLATION CATALYSTS"+PFT,OLD,  
 NEW,NT/CT  
 L67 14 SEA FILE=HCAPLUS ABB=ON PLU=ON L6 (L) (PREP+NT)/RL  
 L68 431 SEA FILE=HCAPLUS ABB=ON PLU=ON L8 (L) (RACT+NT)/RL  
 L69 2354 SEA FILE=HCAPLUS ABB=ON PLU=ON L5 (L) (RACT+NT)/RL  
 L70 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L68 AND L69 AND L67  
 L71 182 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 (L) CAT/RL  
 L72 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L70 AND L71  
 L73 1594 SEA FILE=HCAPLUS ABB=ON PLU=ON ((L62 OR L63)) (L) (RACT+NT)/RL  
 L74 1963 SEA FILE=HCAPLUS ABB=ON PLU=ON L68 OR L73  
 L75 45 SEA FILE=HCAPLUS ABB=ON PLU=ON L74 (L) L51  
 L76 36 SEA FILE=HCAPLUS ABB=ON PLU=ON L74 AND L64  
 L77 31 SEA FILE=HCAPLUS ABB=ON PLU=ON L74 AND L69  
 L78 875 SEA FILE=HCAPLUS ABB=ON PLU=ON L65 (L) (L27 OR L30 OR L54 OR  
 L55)  
 L79 11 SEA FILE=HCAPLUS ABB=ON PLU=ON (L75 OR L76 OR L77) AND L78  
 L80 19 SEA FILE=HCAPLUS ABB=ON PLU=ON (L75 OR L76 OR L77) AND  
 ((PT?/OBI OR ?PLATIN?/OBI OR HPT?/OBI) OR (?H2PT?/OBI) OR  
 (?CL6PT?/OBI) OR (?HEXACHLOROPLATIN?/OBI))  
 L81 24 SEA FILE=HCAPLUS ABB=ON PLU=ON L70 OR L72 OR L79 OR L80  
 L82 24 SEA FILE=HCAPLUS ABB=ON PLU=ON L81 AND (L27 OR L30 OR (L51  
 OR L52 OR L53 OR L54 OR L55 OR L56 OR L57 OR L58 OR L59 OR L60  
 OR L61 OR L62 OR L63 OR L64 OR L65))  
 L83 24 SEA FILE=HCAPLUS ABB=ON PLU=ON (L81 OR L82)  
 L84 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L83 AND (L33 OR L34 OR L35 OR

L36)

L85 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L84 AND L1  
 L86 2 SEA FILE=HCAPLUS ABB=ON PLU=ON (L84 OR L85)  
 L87 22 SEA FILE=HCAPLUS ABB=ON PLU=ON L83 NOT L86  
 L88 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L87 AND L37

=&gt; d his 1100

(FILE 'USPATFULL, USPATOLD, USPAT2' ENTERED AT 13:34:34 ON 25 OCT 2007)

L100 6 S L99 AND L38

=&gt; d que 1100

L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2006-583553/APPS  
 L3 TRANSFER PLU=ON L1 '1- RN : 9 TERMS  
 L4 9 SEA FILE=REGISTRY ABB=ON PLU=ON L3  
 L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND "CL3 H SI"/MF  
 L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS AND CL/ELS  
 L7 7 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS  
 L8 6 SEA FILE=REGISTRY ABB=ON PLU=ON L7 NOT L6  
 L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND PT/ELS  
 L33 QUE ABB=ON PLU=ON JUST, E?/AU  
 L34 QUE ABB=ON PLU=ON GIESSLER, S?/AU  
 L35 QUE ABB=ON PLU=ON JENKNER, P?/AU  
 L36 QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA  
 L38 QUE ABB=ON PLU=ON AY<2005 OR PY<2005 OR PRY<2005  
 L66 QUE ABB=ON PLU=ON C07F0007-14/IPC  
 L89 243 SEA L66  
 L90 226 SEA L8  
 L91 101 SEA L6  
 L92 7 SEA L89 AND (L90 OR L91)  
 L93 1312 SEA L5  
 L94 6 SEA L92 AND L93  
 L95 81 SEA L9  
 L96 2 SEA L92 AND L95  
 L97 7 SEA L92 OR L94 OR L96  
 L98 1 SEA L97 AND (L33 OR L34 OR L35 OR L36)  
 L99 6 SEA L97 NOT L98  
 L100 6 SEA L99 AND L38

=&gt; d que 1120

L27 QUE ABB=ON PLU=ON PT? OR ?PLATIN? OR HPT?  
 L30 QUE ABB=ON PLU=ON ?H2PT?  
 L33 QUE ABB=ON PLU=ON JUST, E?/AU  
 L34 QUE ABB=ON PLU=ON GIESSLER, S?/AU  
 L35 QUE ABB=ON PLU=ON JENKNER, P?/AU  
 L36 QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA  
 L38 QUE ABB=ON PLU=ON AY<2005 OR PY<2005 OR PRY<2005  
 L51 QUE ABB=ON PLU=ON HYDROSIL? OR (HYDRO(W)(SILAT? OR SIL  
 YLAT?))  
 L52 QUE ABB=ON PLU=ON ?FLUOROOLEFIN? OR ?FLUOROALKEN? OR (  
 (?FLUOR? OR PERFLUOR? OR OLIGOFUOR? OR DIFLUOR? OR TRIFL  
 UOR?)(3A) (?OLEFIN? OR ?ALKEN?))  
 L53 QUE ABB=ON PLU=ON ?CHLOROSIL? OR ((?CHLOR? OR DICHLOR?  
 OR TRICHLOR?)(3A) (?SILYL? OR ?SILAN?)) OR (?SILYL?(1T)?C  
 HLORID?) OR (?SILYL?(1W)?CHLORID?)  
 L54 QUE ABB=ON PLU=ON ?CL6PT?  
 L55 QUE ABB=ON PLU=ON ?HEXACHLOROPLATIN?  
 L56 QUE ABB=ON PLU=ON ?CATALY?

L57 QUE ABB=ON PLU=ON F OR ?FLUORO? OR ?FLUORID?  
 L58 QUE ABB=ON PLU=ON ?FLUORIN?  
 L59 QUE ABB=ON PLU=ON CL OR CHLORINAT? OR ?CHLORO? OR ?CHLORID?  
 L60 QUE ABB=ON PLU=ON SI OR SILICON  
 L66 QUE ABB=ON PLU=ON C07F0007-14/IPC  
 L101 QUE ABB=ON PLU=ON N02-F/MC  
 L102 QUE ABB=ON PLU=ON (A678(P)Q421)/M0,M1,M2,M3,M4,M5,M6  
 L103 QUE ABB=ON PLU=ON (H721(P)M730(P)(H601 OR H609 OR H685 OR H684 OR H689))/M0,M1,M2,M3,M4,M5,M6  
 L104 QUE ABB=ON PLU=ON (B114(P)M730(P)(B751 OR B752))/M0,M1,M2,M3,M4,M5,M6  
 L105 QUE ABB=ON PLU=ON (B414(P)M720(P)N213(P)(H601 OR H509 OR H684 OR H685 OR H689))/M0,M1,M2,M3,M4,M5,M6  
 L106 2 SEA FILE=WPIX ABB=ON PLU=ON L102 AND L103 AND L104 AND L105  
 L107 362 SEA FILE=WPIX ABB=ON PLU=ON C07F0007-14/IPC  
 L108 38 SEA FILE=WPIX ABB=ON PLU=ON L107 AND L105  
 L109 28 SEA FILE=WPIX ABB=ON PLU=ON L108 AND (L101 OR L102)  
 L110 2 SEA FILE=WPIX ABB=ON PLU=ON L103 AND L104 AND L105 AND (L101 OR L102)  
 L111 29 SEA FILE=WPIX ABB=ON PLU=ON L106 OR L109 OR L110  
 L112 20 SEA FILE=WPIX ABB=ON PLU=ON L51 (10A) L52  
 L113 2 SEA FILE=WPIX ABB=ON PLU=ON L112 (20A) L53  
 L114 30 SEA FILE=WPIX ABB=ON PLU=ON L111 OR L113  
 L115 28 SEA FILE=WPIX ABB=ON PLU=ON L114 AND L66  
 L116 30 SEA FILE=WPIX ABB=ON PLU=ON L114 OR L115  
 L117 30 SEA FILE=WPIX ABB=ON PLU=ON L116 AND (L27 OR L30 OR (L51 OR L52 OR L53 OR L54 OR L55 OR L56 OR L57 OR L58 OR L59 OR L60))  
 L118 6 SEA FILE=WPIX ABB=ON PLU=ON L117 AND (L33 OR L34 OR L35 OR L36)  
 L119 24 SEA FILE=WPIX ABB=ON PLU=ON L117 NOT L118  
 L120 24 SEA FILE=WPIX ABB=ON PLU=ON L119 AND L38

=> d his 1133

(FILE 'MEDLINE, BIOSIS, EMBASE, PASCAL, SCISEARCH, CONFSCI, DISSABS' ENTERED AT 13:53:33 ON 25 OCT 2007)

L133 5 S L132 AND (L56 OR L60 OR L57-L58 OR L59)

=> d que 1133

L27 QUE ABB=ON PLU=ON PT? OR ?PLATIN? OR HPT?  
 L30 QUE ABB=ON PLU=ON ?H2PT?  
 L51 QUE ABB=ON PLU=ON HYDROSIL? OR (HYDRO(W)(SILAT? OR SILYLAT?))  
 L52 QUE ABB=ON PLU=ON ?FLUOROOLEFIN? OR ?FLUOROALKEN? OR (?FLUOR? OR PERFLUOR? OR OLIGOFUOR? OR DIFLUOR? OR TRIFLUOR?)(3A) (?OLEFIN? OR ?ALKEN?))  
 L53 QUE ABB=ON PLU=ON ?CHLOROSIL? OR ((?CHLOR? OR DICHLOR? OR TRICHLOR?)(3A) (?SILYL? OR ?SILAN?)) OR (?SILYL?(1T)?CHLORID?) OR (?SILYL?(1W)?CHLORID?)  
 L54 QUE ABB=ON PLU=ON ?CL6PT?  
 L55 QUE ABB=ON PLU=ON ?HEXACHLOROPLATIN?  
 L56 QUE ABB=ON PLU=ON ?CATALY?  
 L57 QUE ABB=ON PLU=ON F OR ?FLUORO? OR ?FLUORID?  
 L58 QUE ABB=ON PLU=ON ?FLUORIN?  
 L59 QUE ABB=ON PLU=ON CL OR CHLORINAT? OR ?CHLORO? OR ?CHLORID?  
 L60 QUE ABB=ON PLU=ON SI OR SILICON  
 L130 26 SEA L51(15A) L52



L131 6 SEA L130 (20A) L53  
 L132 5 SEA L131 AND (L27 OR L30 OR L54 OR L55)  
 L133 5 SEA L132 AND (L56 OR L60 OR (L57 OR L58) OR L59)

=> d his 1129

(FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 13:52:34 ON 25 OCT 2007)  
 L129 0 S L127-L128

=> d que 1129

L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2006-583553/APPS  
 L3 TRANSFER PLU=ON L1 1- RN : 9 TERMS  
 L4 9 SEA FILE=REGISTRY ABB=ON PLU=ON L3  
 L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND "CL3 H SI"/MF  
 L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS AND CL/ELS  
 L7 7 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS  
 L8 6 SEA FILE=REGISTRY ABB=ON PLU=ON L7 NOT L6  
 L125 2 SEA L8  
 L126 27 SEA L5  
 L127 0 SEA L6  
 L128 0 SEA L125 AND L126  
 L129 0 SEA (L127 OR L128)

=> d que 1124

L52 QUE ABB=ON PLU=ON ?FLUOROOLEFIN? OR ?FLUOROALKEN? OR (  
 (?FLUOR? OR PERFLUOR? OR OLIGOFUOR? OR DIFLUOR? OR TRIFL  
 UOR?)(3A) (?OLEFIN? OR ?ALKEN?))  
 L53 QUE ABB=ON PLU=ON ?CHLOROSIL? OR ((?CHLOR? OR DICHLOR?  
 OR TRICHLOR?)(3A) (?SILYL? OR ?SILAN?)) OR (?SILYL?(1T)?C  
 HLORID?) OR (?SILYL?(1W)?CHLORID?)  
 L121 88 SEA FILE=JAPIO ABB=ON PLU=ON C07F0007-14/IPC  
 L122 41 SEA FILE=JAPIO ABB=ON PLU=ON L121 AND L53  
 L123 2 SEA FILE=JAPIO ABB=ON PLU=ON L121 AND L52  
 L124 2 SEA FILE=JAPIO ABB=ON PLU=ON L122 AND L123

=> dup rem 141 150 188 1100 1120 1124 1133 1129

L129 HAS NO ANSWERS

DUPLICATE IS NOT AVAILABLE IN 'CHEMINFORMRX'.

ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE

FILE 'CASREACT' ENTERED AT 14:08:14 ON 25 OCT 2007

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PROCESSING COMPLETED FOR L41  
PROCESSING COMPLETED FOR L50  
PROCESSING COMPLETED FOR L88  
PROCESSING COMPLETED FOR L100  
PROCESSING COMPLETED FOR L120  
PROCESSING COMPLETED FOR L124  
PROCESSING COMPLETED FOR L133  
PROCESSING COMPLETED FOR L129

L135            66 DUP REM L41 L50 L88 L100 L120 L124 L133 L129 (19 DUPLICATES  
REMOVED)

ANSWERS '1-26' FROM FILE CASREACT  
ANSWERS '27-30' FROM FILE CHEMINFORMRX  
ANSWERS '31-37' FROM FILE HCAPLUS  
ANSWERS '38-39' FROM FILE USPATFULL  
ANSWERS '40-62' FROM FILE WPIX  
ANSWERS '63-64' FROM FILE JAPIO  
ANSWERS '65-66' FROM FILE SCISEARCH

=> file stnguide

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LAST RELOADED: Oct 19, 2007 (20071019/UP).

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YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH' - CONTINUE? (Y)/N:y

L135 ANSWER 1 OF 66 CASREACT COPYRIGHT 2007 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 141:71714 CASREACT Full-text

TITLE: Process for preparation of alkyl silanes from hydrosilanes and olefins in presence of platinum catalyst

INVENTOR(S): Nikolaev, G. A.; Egorov, A. G.; Plashkin, V. S.; Khoroshavina, Yu. V.; Kolokol'tseva, I. G.; Lobkov, V. D.; Kormer, V. A.

PATENT ASSIGNEE(S): Russia

SOURCE: Russ., No pp. given

CODEN: RUXXE7

DOCUMENT TYPE: Patent

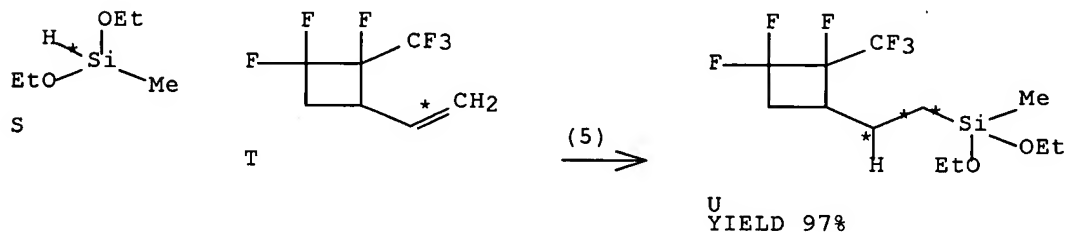
LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2219126	C2	20031220	RU 2001-119772	20010716
PRIORITY APPLN. INFO.:			RU 2001-119772	20010716

AB Alkyl silanes are prepared by reaction of hydrosilanes  $\text{SiR}_b\text{X}_a\text{H}_4-(a+b)$  ( $a = 1-2$ ;  $b = 0-1$ ) with olefins in presence of a platinum-containing catalyst at elevated temperature such that the catalyst and some or all of the hydrosilane are mixed at room temperature and then heated, after which the mixture is held for  $\geq 0.5$  h without addnl. heating, and then the remaining reagents are added; the product is isolated by vacuum distillation. In an example, 0.2 mol  $\text{PhSi}(\text{H})\text{Cl}_2$  and 0.53 mL of a solution of  $(\text{acac})_2\text{Pt}$  in acetone ( $[\text{Pt}] = 10^{-4}$  g-atom/mL) are heated at  $170^\circ$  for 1.5 h, after which the mixture was held for 24 h, followed by treatment with 0.85 mol  $\text{PhSi}(\text{H})\text{Cl}_2$  and 1.05 mol 1-hexene and refluxing for 1 h, and recovery of product by vacuum distillation gave 98%  $\text{PhSi}(\text{CH}_2\text{CH}_2\text{Bu})\text{Cl}_2$ .

RX(5) OF 9 S + T ==> U

RX(5) RCT S 2031-62-1

## STAGE(1)

CAT 7440-06-4D Pt  
 CON SUBSTAGE(1) room temperature  
 SUBSTAGE(2) 50 minutes, 95 deg C  
 SUBSTAGE(3) 6 hours

## STAGE(2)

RCT T 116850-32-9  
 CON SUBSTAGE(2) 1 hour, reflux

PRO U 709612-15-7

=&gt; d ibib abs fhit 2-26

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH' - CONTINUE? (Y)/N:y

L135 ANSWER 2 OF 66 CASREACT COPYRIGHT 2007 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 136:263266 CASREACT Full-text

TITLE: Method for preparation of polyfluoro organosilicon compounds by hydrosilylation of polyfluoroolefins with hydrosilanes

INVENTOR(S): Choi, Jun Chul; Sakakura, Toshiyasu

PATENT ASSIGNEE(S): Sangyo Gijutsu Sogo Kenkyusho, Japan; National Institute of Advanced Industrial Science and Technology

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

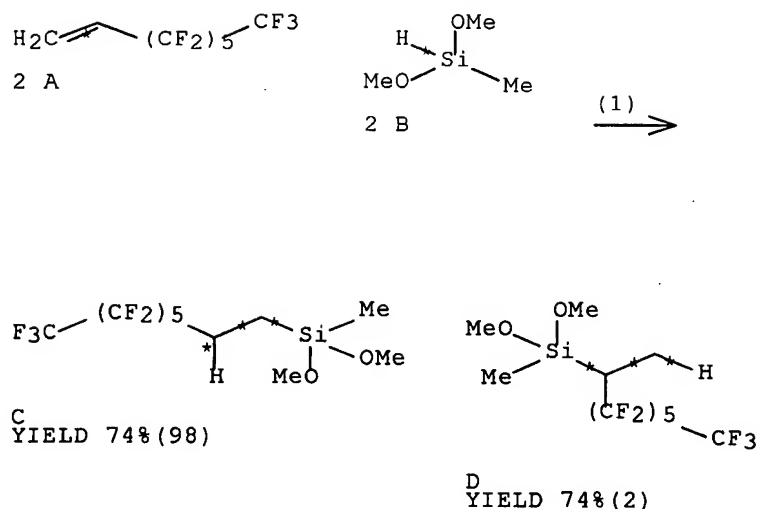
FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002088090	A	20020327	JP 2000-280005	20000914
JP 3530929	B2	20040524		

PRIORITY APPLN. INFO.: JP 2000-280005 20000914

AB Polyfluoro organosilicon compds. are efficiently prepared in high yields with industrial advantage by direct hydrosilylation of polyfluoroolefins with hydrosilanes in the presence of a transition metal complex of polyfluorophosphine ligands using supercrit. or liquefied carbon dioxide as the solvent. The transition metal complexes are Ru, Rh, Ir, Ni, Pd, or Pt complexes. These organosilicon compds. are useful as silane coupling agents having perfluoroalkyl groups. Thus, 5 mg dichlorotris(tri-p-trifluoromethylphenylphosphine)ruthenium, 0.35 g 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-1-octene, and 0.22 g dimethoxymethylsilane were placed in a 20 mL stainless steel autoclave at room temperature, charged with CO<sub>2</sub> at 60 kg/cm<sup>2</sup>, and heated at 90° and inner pressure of 300 atm for 24 h to give organosilicon compds. consisting of 98% CF<sub>3</sub>(CF<sub>2</sub>)<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>Si(OMe)<sub>2</sub>Me and 2 % CF<sub>3</sub>(CF<sub>2</sub>)<sub>5</sub>CHMeSi(OMe)<sub>2</sub>Me in 74% yields.

RX(1) OF 3      2 A + 2 B ==> C + D

RX(1)      RCT    A 25291-17-2, B 16881-77-9  
              PRO    C 85857-17-6, D 339286-25-8  
              SOL    124-38-9 CO2  
              NTE    hydrosilylation under high-pressure at 90° for 24 h using  
                      supercrit. carbon dioxide as solvent

L135 ANSWER 3 OF 66    CASREACT    COPYRIGHT 2007 ACS on STN DUPLICATE 4  
 ACCESSION NUMBER:      134:101007    CASREACT    Full-text  
 TITLE:                    Bimetallic platinum catalysts for  
                              hydrosilations  
 INVENTOR(S):             Chen, Wei; Dinh, Paul Charles; Tzou, Ming-Shin  
 PATENT ASSIGNEE(S):     Dow Corning Corporation, USA  
 SOURCE:                   U.S., 8 pp.  
                              CODEN: USXXAM  
 DOCUMENT TYPE:          Patent  
 LANGUAGE:                English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6177585	B1	20010123	US 2000-575860	20000519
EP 1164137	A1	20011219	EP 2001-304267	20010514
EP 1164137	B1	20030806		

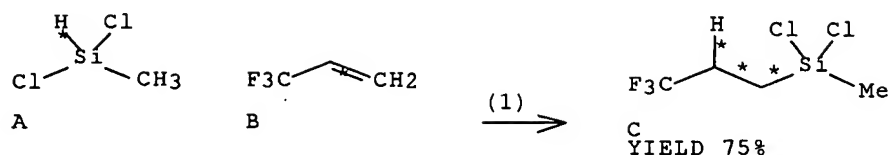
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO

JP 2002020391	A	20020123	JP 2001-146523	20010516
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PRIORITY APPLN. INFO.:	US 2000-575860	20000519
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OTHER SOURCE(S):      MARPAT 134:101007

AB    A hydrosilation processing a silicon hydride with an unsatd. reactant in the presence of a supported bimetallic catalyst comprising an active hydrosilating metal such as platinum in elemental or compound form, and a surface segregating metal such as copper in elemental or compound form on a support. Thus, 87% conversion was obtained in Pt /Cu/C catalyzed hydrosilylation of allyl chloride with HSiCl3 at 120°.

RX(1) OF 1      A + B ==> C

RX(1)      RCT    A 75-54-7, B 677-21-4  
              PRO    C 675-62-7  
              CAT    7440-50-8 Cu, 7440-06-4 Pt  
              NTE    bimetallic catalyst supported on carbon claimed and process for making it claimed; continuous stirred-tank reactor used; extensive set of alkene - halosilane reactions also described and claimed, regioselective

REFERENCE COUNT:            9      THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

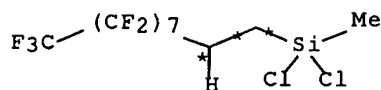
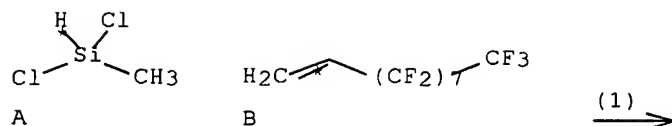
L135 ANSWER 4 OF 66    CASREACT    COPYRIGHT 2007 ACS on STN DUPLICATE 5  
 ACCESSION NUMBER:            134:147705    CASREACT    Full-text  
 TITLE:                            Preparation of fluorine-containing organic silicon compounds  
 INVENTOR(S):                    Tonomura, Yoichi; Kubota, Toru; Endo, Mikio  
 PATENT ASSIGNEE(S):            Shin-Etsu Chemical Industry Co., Ltd., Japan  
 SOURCE:                           Jpn. Kokai Tokkyo Koho, 5 pp.  
    CODEN: JKXXAF  
 DOCUMENT TYPE:                Patent  
 LANGUAGE:                        Japanese  
 FAMILY ACC. NUM. COUNT:      1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001031684	A	20010206	JP 1999-200344	19990714
PRIORITY APPLN. INFO.:			JP 1999-200344	19990714

OTHER SOURCE(S):            MARPAT 134:147705

AB    The compds. CF<sub>3</sub>(CF<sub>2</sub>)<sub>n</sub>CH<sub>2</sub>CH<sub>2</sub>SiMeaCl<sub>b</sub> (n = 3-9; a = 0-1; b = 2-3; a + b = 3) are prepared by reaction of CF<sub>3</sub>(CF<sub>2</sub>)<sub>n</sub>CH:CH<sub>2</sub> (n = 3-9) with HSiMeaCl<sub>b</sub> (a, b = same as above) in the presence of Pt catalysts in ≥1 sort of aliphatic hydrocarbon solvents. 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10- Heptadecafluorodecene was reacted with methyldichlorosilane in the presence of chloroplatinic acid in isooctane at 80° for 4 h to give 88.4% 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecylmethyldichlorosilane.

RX(1) OF 2      A + B ==> C



C  
YIELD 88%

RX(1) RCT A 75-54-7, B 21652-58-4  
 PRO C 3102-79-2  
 CAT 16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>  
 SOL 540-84-1 Isooctane

L135 ANSWER 5 OF 66 CASREACT COPYRIGHT 2007 ACS on STN DUPLICATE 6  
 ACCESSION NUMBER: 135:257287 CASREACT Full-text  
 TITLE: Recycling of Rhodium-Based Hydrosilylation Catalysts;  
 A Fluorous Approach  
 AUTHOR(S): de Wolf, Elwin; Speets, Emiel A.; Deelman, Berth-Jan;  
 van Koten, Gerard  
 CORPORATE SOURCE: Debye Institute Department of Metal-Mediated  
 Synthesis, Utrecht University, Utrecht, NL-3584 CH,  
 Neth.  
 SOURCE: Organometallics (2001), 20(17), 3686-3690  
 CODEN: ORGND7; ISSN: 0276-7333  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

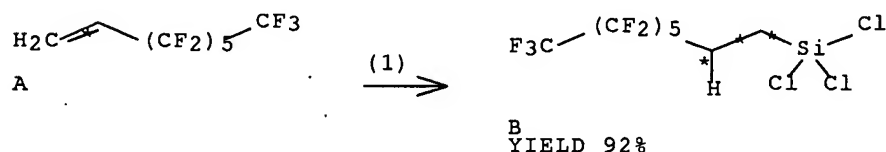
AB The concept of fluoruous biphasic separation was applied in the recycling of Rh-based catalysts for the hydrosilylation of 1-alkenes and fluorinated 1-alkenes by following two approaches. Hydrosilylation of 1-hexene using various silanes and fluoruous versions of Wilkinson's catalyst [RhCl{P(C<sub>6</sub>H<sub>4</sub>-4-SiMe<sub>2</sub>Rf)<sub>3</sub>}<sub>3</sub>] (1; Rf = CH<sub>2</sub>CH<sub>2</sub>C<sub>6</sub>F<sub>13</sub>) or [RhCl{P(C<sub>6</sub>H<sub>4</sub>-4-SiMe(Rf)<sub>2</sub>)<sub>3</sub>}<sub>3</sub>] (2; Rf = CH<sub>2</sub>CH<sub>2</sub>C<sub>8</sub>F<sub>17</sub>) in fluoruous biphasic solvent systems afforded the corresponding n-hexylsilanes in high yield. The catalyst activities were similar to those obtained using conventional [RhCl(PPh<sub>3</sub>)<sub>3</sub>]. The fluoruous phase containing the catalyst was recycled at least twice without noticeable loss of activity, despite the fact that 12 and 1.7% of [Rh] was lost for 1 and 2, resp., in the 1st cycle. The fluoruous hydride intermediate [Rh(H)(Cl)(SiCl<sub>3</sub>){P(C<sub>6</sub>H<sub>4</sub>-4-SiMe<sub>2</sub>Rf)<sub>3</sub>}<sub>2</sub>] (3; Rf = CH<sub>2</sub>CH<sub>2</sub>C<sub>6</sub>F<sub>13</sub>) was identified by NMR spectroscopy. In a reverse approach, the original Wilkinson's catalyst was used for the hydrosilylation of 1H,1H,2H-perfluoro-1-alkenes RCH:CH<sub>2</sub> (R = C<sub>6</sub>H<sub>13</sub>, C<sub>8</sub>F<sub>17</sub>, ClO<sub>2</sub>F<sub>21</sub>) in benzene or toluene as solvent. Fluorous extraction of the products enabled recycling of the nonfluorous catalyst.





The use of the above platinum complex allows this hydrosilylation to efficiently proceed in high yields under very mild conditions. 2-(Perfluoroalkyl)ethylchlorosilane derivs. are useful as raw materials for coating materials having water-repellent and antifouling properties and durability. Thus, 350.8 g F(CF<sub>2</sub>)<sub>6</sub>CH:CH<sub>2</sub> was placed in a 500 mL flask fitted with a condenser, a magnetic stirrer, and a dropping funnel and heated to 100° in an oil bath, followed by adding a part (10 mL) of 102 mL HSiCl<sub>3</sub> from the dropping funnel and then 75 µL PtO [CH<sub>2</sub>:CHSiMeO]<sub>4</sub> while the rise of the inner temperature by 10° being observed and the course of the reaction being monitored by gas chromatog. After the reaction temperature was adjusted to 100°, the rest of HSiCl<sub>3</sub> was added over 3 h while adding 3 + 25 µL PtO[CH<sub>2</sub>:CHSiMeO]<sub>4</sub> in three portions and the reaction mixture was aged for 3 h to give 92% F(CF<sub>2</sub>)<sub>6</sub>CH<sub>2</sub>CH<sub>2</sub>SiCl<sub>3</sub>.

RX(1) OF 3      A ==> B



RX(1)      RCT    A 25291-17-2  
              RGT    C 10025-78-2 HSiCl<sub>3</sub>  
              PRO    B 78560-45-9  
              CAT    226921-58-0 Platinum, (η<sup>4</sup>-2,4,6,8-tetraethenyl-2,4,6,8-tetramethylcyclotetrasiloxane)-  
              NTE    100° for 6 h

L135 ANSWER 7 OF 66    CASREACT    COPYRIGHT 2007 ACS on STN DUPLICATE 8  
 ACCESSION NUMBER:      124:87354    CASREACT    Full-text  
 TITLE:                    Optimized preparation of inert fluorinated silanes via  
                                  hydride-functional silane intermediates  
 INVENTOR(S):            Boutevin, Bernard; Guida-Pietrasanta, Francine;  
                                  Ratsimiehety, Amedee; Caporiccio, Gerardo  
 PATENT ASSIGNEE(S):    Dow Corning Corporation, USA  
 SOURCE:                   U.S., 11 pp.  
                                  CODEN: USXXAM  
 DOCUMENT TYPE:           Patent  
 LANGUAGE:                English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

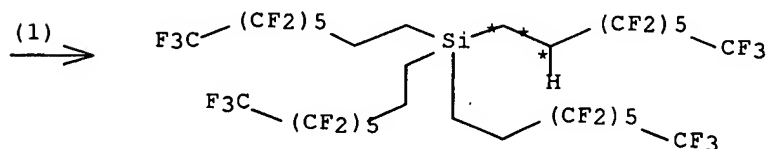
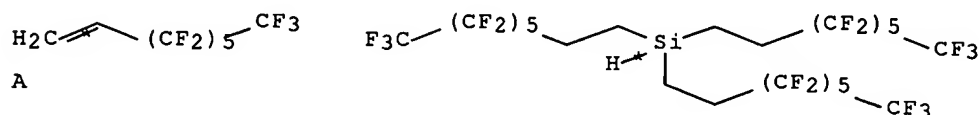
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5453528	A	19950926	US 1994-343322	19941121
FR 2720744	A1	19951208	FR 1994-6677	19940601
CA 2150308	A1	19951202	CA 1995-2150308	19950526
EP 685482	A1	19951206	EP 1995-303641	19950530
R: DE, FR, GB				
JP 07330780	A	19951219	JP 1995-135258	19950601

PRIORITY APPLN. INFO.:

FR 1994-6677

19940601

AB The present invention relates to an improved method for preparing fluorinated silanes R<sub>1</sub>Si (I) or R<sub>2</sub>Si(R<sub>3</sub>SiR<sub>4</sub>)<sub>z</sub>R<sub>3</sub>SiR<sub>2</sub> (II), said method comprising reacting the corresponding halide-functional or alkoxy-functional silane with LiAlH<sub>4</sub> or NaBH<sub>4</sub> to form a hydride-functional silane and then reacting the latter with a vinyl-terminated fluorotelomer or an allyl-terminated fluorotelomer, wherein at least three R<sub>1</sub> of I, at least two of the R<sub>2</sub> and at least one R<sub>4</sub> of II are selected from derivs. of fluorotelomers or fluorocotelomers, z has an average value of 0 to 4 and R<sub>3</sub> is a derivative of an alkylene-terminated telechelic divalent telomer or cotelomer. For example, the key step in the preparation of (C<sub>2</sub>F<sub>5</sub>(C<sub>2</sub>F<sub>4</sub>)<sub>2</sub>C<sub>2</sub>H<sub>4</sub>)<sub>4</sub>Si involved reacting (C<sub>6</sub>F<sub>13</sub>C<sub>2</sub>H<sub>4</sub>)<sub>3</sub>SiF (80 parts) with LiAlH<sub>4</sub> (2.8 parts) in Et<sub>2</sub>O to give 95% (C<sub>6</sub>F<sub>13</sub>C<sub>2</sub>H<sub>4</sub>)<sub>3</sub>SiH, which (64 parts) was then reacted with 25 parts C<sub>6</sub>F<sub>13</sub>CH:CH<sub>2</sub> in the presence of 0.3 mL 10% chloroplatinic acid and O<sub>2</sub> in iPrOH at 110° for 18 h to give 80% (C<sub>2</sub>F<sub>5</sub>(C<sub>2</sub>F<sub>4</sub>)<sub>2</sub>C<sub>2</sub>H<sub>4</sub>)<sub>4</sub>Si; attempts at direct conversion of (C<sub>6</sub>F<sub>13</sub>C<sub>2</sub>H<sub>4</sub>)<sub>3</sub>SiF to (C<sub>2</sub>F<sub>5</sub>(C<sub>2</sub>F<sub>4</sub>)<sub>2</sub>C<sub>2</sub>H<sub>4</sub>)<sub>4</sub>Si gave much lower yields. Some of the products have glass transition temps. and other properties that make them suitable for use as a lubricant for electromech. applications, coolant for electronics, hydraulic fluid for aeronautics, base fluid for greases, etc.

RX(1) OF 18 ... A + B ==> C

C  
YIELD 80%

RX(1) RCT A 25291-17-2, B 147701-73-3  
 RGT D 7782-44-7 O2  
 PRO C 147701-74-4  
 CAT 16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>  
 SOL 67-63-0 Me<sub>2</sub>CHOH

L135 ANSWER 8 OF 66 CASREACT COPYRIGHT 2007 ACS on STN DUPLICATE 9

ACCESSION NUMBER: 123:228510 CASREACT Full-text

TITLE: Preparation of allyl(alkyl)silanes by hydrosilylation  
 of alkenes with allyldichlorosilane or  
 allyldimethoxysilane

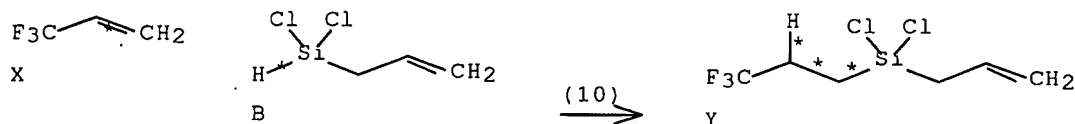
INVENTOR(S): Jung, Il N.; Yoo, Bok R.; Lee, Bong W.; Suk, Mi-yeon  
 PATENT ASSIGNEE(S): Korea Institute of Science and Technology, S. Korea  
 SOURCE: U.S., 5 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5420323	A	19950530	US 1994-302429	19940908
KR 141464	B1	19980701	KR 1993-26069	19931201
JP 07206872	A	19950808	JP 1993-327086	19931224
			KR 1993-26069	19931201

PRIORITY APPLN. INFO.:

OTHER SOURCE(S): MARPAT 123:228510

AB Title compds. CH<sub>2</sub>:CHCH<sub>2</sub>SiX<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>R [X = Cl, Cl-4 alkoxy; R = Ph, CH<sub>2</sub>Cl, CnH<sub>2</sub>nMe (n = 0-15), SiMemCl<sub>3</sub>-m (m = 0-3), CF<sub>3</sub>, CH<sub>2</sub>CF<sub>3</sub>, CN, CH<sub>2</sub>CN, glycidyloxymethyl, CH<sub>2</sub>SiMemCl<sub>3</sub>-m (m = 0-3), SiMem(OR<sub>1</sub>)<sub>3</sub>-m (m = 0-3; R<sub>1</sub> = Me, Et), CH<sub>2</sub>SiMem(OR<sub>1</sub>)<sub>3</sub>-m (m = 0-3; same R<sub>1</sub>), PhCH<sub>2</sub>Cl [sic], cyclohexenyl] are claimed. The title compds. are prepared by hydrosilylation of CH<sub>2</sub>:CHCH<sub>2</sub>SiX<sub>2</sub>H (same X) with CH<sub>2</sub>:CHR (same R) in presence of a catalyst, chosen from chloroplatinic acid, Pt on silica, tributylamine, and inorg. compds. of Pd, Rh, or Ni. In an example, reaction of vinyltrimethylchlorosilane 0.21 mol with allyldichlorosilane 0.07 mol and 50 µL of 1% chloroplatinic acid in iPrOH at 80° for 30 min gave 89% 7-methyl-4,4,7-trichloro-4,7-disila-1-octene.

RX(10) OF 39 X + B ==> YRX(10) RCT X 677-21-4

STAGE(1)

CAT 16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>SOL 67-63-0 Me<sub>2</sub>CHOH

STAGE(2)

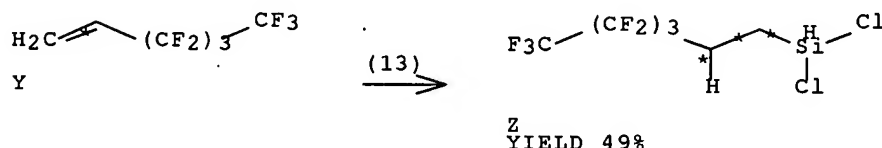
RCT B 3937-28-8PRO Y 867-37-8

L135 ANSWER 9 OF 66 CASREACT COPYRIGHT 2007 ACS on STN DUPLICATE 10  
 ACCESSION NUMBER: 122:187656 CASREACT Full-text  
 TITLE: Hydrosilylation of 1-alkenes with dichlorosilane  
 AUTHOR(S): Out, Gerardus J. J.; Klok, Harm-Anton; Schwegler, Leonore; Frey, Holger; Moeller, Martin  
 CORPORATE SOURCE: Dep. Chem. Technology, Univ. Twente, Enschede, 7500

AE, Neth.  
 SOURCE: Macromolecular Chemistry and Physics (1995),  
 196(1), 185-94  
 CODEN: MCHPES; ISSN: 1022-1352  
 PUBLISHER: Huethig & Wepf  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Sym. and unsym. substituted diorganodichlorosilanes have been prepared by hydrosilylation with dichlorosilane using two different Pt catalysts, i.e., hexachloroplatinic acid (Speier's catalyst) and a Pt cyclovinylmethylsiloxane complex. Hydrosilylation of unsubstituted 1-alkenes proved to be very efficient, yielding anti-Markovnikov substituted di-n-alkyldichlorosilanes. However, no reaction was observed when electron-deficient 1-alkenes were used. Octacarbonyldicobalt enabled formation of the monoadduct of 1H,1H,2H-perfluoro-1-hexene with dichlorosilane, which was employed in a 2nd hydrosilylation of the olefin. Thus, the anti-Markovnikov diadduct was obtained in 40% overall yield. The two-step synthesis also was applied successfully to obtain unsym. substituted diorganodichlorosilanes containing nitrile and ether groups.

RX(13) OF 15 Y ==> Z



RX(13) RCT Y 19430-93-4

STAGE(1)  
 RGT AA 10210-68-1 Co<sub>2</sub>(CO)<sub>8</sub>

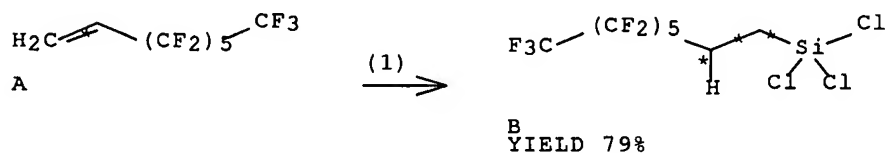
STAGE(2)  
 RGT D 4109-96-0 SiH<sub>2</sub>Cl<sub>2</sub>

PRO Z 161582-94-1  
 NTE REGIOSELECTIVE

L135 ANSWER 10 OF 66 CASREACT COPYRIGHT 2007 ACS on STN DUPLICATE 11  
 ACCESSION NUMBER: 121:157727 CASREACT Full-text  
 TITLE: Study on the alkylation of chlorosilanes. Part II.  
 Synthesis of (fluoroalkyl)chlorosilanes and  
 tetrakis(fluoroalkyl)silanes via hydrosilylation  
 AUTHOR(S): Boutevin, B.; Guida-Pietrasanta, F.; Ratsimihety, A.;  
 Caporiccio, G.  
 CORPORATE SOURCE: URA D-11930 CNRS-ENSCM, 8 rue Ecole Normale,  
 Montpellier-, 34053, Fr.  
 SOURCE: Journal of Fluorine Chemistry (1994), 68(1),  
 71-7  
 CODEN: JFLCAR; ISSN: 0022-1139  
 DOCUMENT TYPE: Journal

LANGUAGE: English

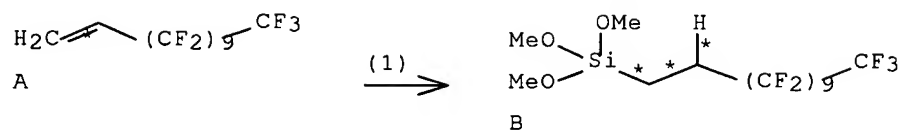
AB The hydrosilylation of various fluorinated olefins and of a diene with different chlorosilanes and with a tris(fluoroalkyl)silane, in the presence of a peroxide or a Pt catalyst, is reported. The reactivity is influenced considerably by the structure of the silane and of the fluorinated olefin. The following (fluoroalkyl)chlorosilanes and (fluoroalkyl)- $\alpha,\omega$ -chlorodisilanes are described;  $C_6F_{13}(CH_2)_nSiR_1R_2Cl$  where  $n = 2$  or  $3$  and  $(ClR_1R_2SiC_2H_4C_3F_6)_2$  with  $R_1 = R_2 = Cl$ ,  $R_1 = Cl$  and  $R_2 = Me$  or  $C_2H_4CF_3$ ,  $R_1 = R_2 = Me$  and  $R_1 = Me$  and  $R_2 = Ph$ . Three new tetra(fluoroalkyl)silanes also were synthesized. All the products were characterized by  $^1H$ ,  $^{19}F$  and  $^{29}Si$  NMR spectroscopy.

RX(1) OF 1      A ==> B

RX(1)      RCT    A 25291-17-2  
              RGT    C 10025-78-2 HSiCl<sub>3</sub>  
              PRO    B 78560-45-9  
              CAT    16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>, 67-63-0 Me<sub>2</sub>CHOH

L135 ANSWER 11 OF 66    CASREACT    COPYRIGHT 2007 ACS on STN DUPLICATE 12  
 ACCESSION NUMBER:      119:226037    CASREACT    Full-text  
 TITLE:                    Syntheses and reactions of metal organics. XVIII.  
                               Synthesis of (1H,1H,2H,2H-polyfluoroalkyl)trimethoxysilanes and surface  
                               modification of a glass plate  
 AUTHOR(S):                Yoshino, Norio; Yamamoto, Yasushi; Hamano, Katsumi;  
                               Kawase, Tokuzo  
 CORPORATE SOURCE:        Fac. Eng., Sci. Univ. Tokyo, Tokyo, 162, Japan  
 SOURCE:                    Bulletin of the Chemical Society of Japan ( 1993), 66(6), 1754-8  
                               CODEN: BCSJA8; ISSN: 0009-2673  
 DOCUMENT TYPE:            Journal  
 LANGUAGE:                  English

AB Four silane coupling agents, (1H,1H,2H,2H-henicosafuorododecyl)trimethoxy silane, (1H,1H,2H,2H-heptadecafluorodecyl)trimethoxysilane, (1H,1H,2H,2H-tridecafluorooctyl)trimethoxysilane, and (1H,1H,2H,2H-nonafluorohexyl)trimethoxysilane were prepared by the hydrosilylation of trichlorosilane with the corresponding 1H,1H,2H-polyfluoro-1-alkene in the presence of hydrogen hexachloroplatinate(IV), followed by reaction with sodium methoxide. The surface modification of a glass plate was attempted using these products. From measurements of the contact angles  $\theta$  (°) of water and oleic acid against a modified glass plate surface, the coupling agents were found to have high modification ability. The modification produced a glass surface with high oxidation resistance.

RX(1) OF 1     A ==> BRX(1)     RCT   A 30389-25-4

STAGE(1)

RGT   C 10025-78-2 HSiCl<sub>3</sub>CAT   16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>

STAGE(2)

RGT   D 124-41-4 NaOMe

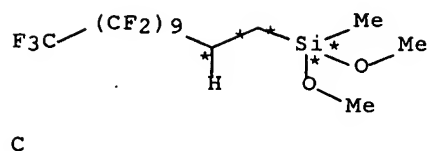
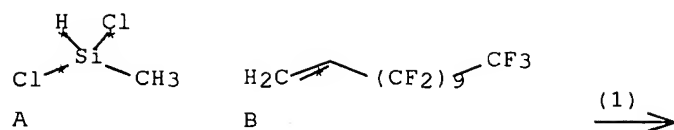
SOL   76-13-1 Freon 113, 67-56-1 MeOH

PRO   B 123445-18-1

L135 ANSWER 12 OF 66   CASREACT   COPYRIGHT 2007 ACS on STN DUPLICATE 13  
 ACCESSION NUMBER:     119:28205   CASREACT   Full-text  
 TITLE:     Syntheses and reactions of metal organics. XVII.  
              Synthesis of silane coupling agents having a  
              fluorocarbon chain and surface modification of glass  
              plates  
 AUTHOR(S):     Yoshino, Norio; Yamamoto, Yasushi; Seto, Tsuyoshi;  
                  Tominaga, Shinichi; Kawase, Tokuzo  
 CORPORATE SOURCE:     Fac. Eng., Sci. Univ. Tokyo, Tokyo, 162, Japan  
 SOURCE:     Bulletin of the Chemical Society of Japan ( 1993 ), 66(2), 472-6  
              CODEN: BCSJA8; ISSN: 0009-2673  
 DOCUMENT TYPE:     Journal  
 LANGUAGE:     English

AB     Four silane coupling agents, 1H,1H,2H,2H-polyfluoroalkyl(dimethoxy)(methyl)silanes [1H,1H,2H,2H-henicosafuorododecyl(dimethoxy)(methyl)silane, C10F21C2H4Si(CH3)(OCH3)2, 1H,1H,2H,2H-heptadecafluorodecyl(dimethoxy)(methyl)silane, C8F17C2H4Si(CH3)(OCH3)2, 1H,1H,2H,2H-tridecafluorooctyl(dimethoxy)(methyl)silane, C6F13C2H4Si(CH3)(OCH3)2, and 1H,1H,2H,2H-nonafluorohexyl(dimethoxy)(methyl)silane, C4F9C2H4Si(CH3)(OCH3)2], were prepared by the hydrosilylation of dichloro(methyl)silane with the corresponding 1H,1H,2H-polyfluoro-1-alkene in the presence of hydrogen hexachloroplatinate(IV), followed by the reaction with sodium methoxide. The surface modification of glass plate was attempted using these products. From measurements of the contact angles  $\theta(^{\circ})$  of water and oleic acid against a modified glass plate surface, the coupling agents were found to have high modification ability. The oxidation resistance of the modified glass surface was also investigated.

RX(1) OF 1     A + B ==> C



RX(1) RCT A 75-54-7, B 30389-25-4

STAGE(1)

CAT 16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>

SOL 67-56-1 MeOH

STAGE(2)

RGT D 124-41-4 NaOMe

SOL 76-13-1 Freon 113

PRO C 123445-14-7

L135 ANSWER 13 OF 66 CASREACT COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 143:347222 CASREACT Full-text

TITLE: 2- And 3-arylpropyl(ethynyl)dimethylsilanes

AUTHOR(S): Yarosh, O. G.; Zhilitskaya, L. V.; Yarosh, N. K.;  
Albanov, A. I.; Voronkov, M. G.

CORPORATE SOURCE: Favorskii Irkutsk Institute of Chemistry, Siberian  
Branch, Russian Academy of Sciences, Irkutsk, Russia

SOURCE: Russian Journal of General Chemistry (2004),  
74(12), 1890-1894

CODEN: RJGCEK; ISSN: 1070-3632

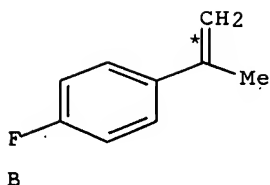
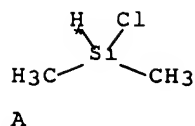
PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

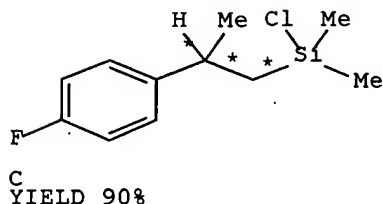
LANGUAGE: English

AB Hydrosilylation of ortho- and para-substituted 2-phenylpropenes and ortho-, meta-, and para-alkoxy substituted 3-phenylpropenes with chlorodimethylsilane in the presence of H<sub>2</sub>PtCl<sub>6</sub> was effected. The resulting adducts were reacted with ethynylmagnesium bromide to synthesize 2- and 3-arylpropyl(ethynyl)silanes.

RX(1) OF 36 A + B ==> C...



(1) →



RX(1) RCT A 1066-35-9, B 350-40-3  
 PRO C 865718-78-1  
 CAT 16941-12-1 H2PtCl6  
 SOL 67-63-0 Me2CHOH  
 CON 0.5 hours, 90 deg C

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L135 ANSWER 14 OF 66 CASREACT COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 137:154975 CASREACT Full-text

TITLE: Synthesis of  $\alpha,\omega$ -bissilanes with fluorocarbon chain and surface structures of solid surfaces modified with the silanes

AUTHOR(S): Kondo, Yukishige; Yamaki, Koichi; Yamauchi, Takashi; Azumi, Reiko; Tanaka, Motoo; Matsumoto, Mutsuyoshi; Yoshino, Norio

CORPORATE SOURCE: Department of Industrial Chemistry, Faculty of Engineering Institute of Colloid and Interface Science, Tokyo University of Science, Tokyo, 162-8601, Japan

SOURCE: Journal of Oleo Science (2002), 51(5), 305-311

CODEN: JOSOAP; ISSN: 1345-8957

PUBLISHER: Japan Oil Chemists' Society

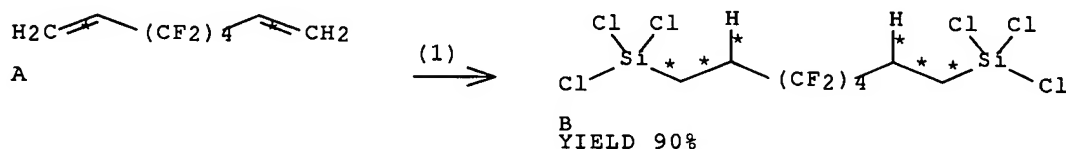
DOCUMENT TYPE: Journal

LANGUAGE: English

AB  $\alpha,\omega$ -Bischlorosilanes,  $\text{Cl}_3\text{SiCH}_2\text{CH}_2(\text{CF}_2)_n\text{CH}_2\text{CH}_2\text{SiCl}_3$  [ $n = 4$  (I), 6 (II) or 8 (III)], were synthesized using hydrosilylation reaction with trichlorosilane of the corresponding  $\alpha,\omega$ -divinylpolyfluoroalkanes,  $\text{CH}_2:\text{CH}(\text{CF}_2)_n\text{CH}:\text{CH}_2$  ( $n = 4, 6, \text{ or } 8$ ), in the presence of hexachloroplatinate (IV) as catalyst at  $100^\circ$ . Two other  $\alpha,\omega$ -bissilanes,  $(\text{CH}_3\text{O})_3\text{SiCH}_2\text{CH}_2(\text{CF}_2)_n\text{CH}_2\text{CH}_2\text{Si}(\text{OCH}_3)_3$  [ $n = 4$  (IV), 6 (V), or 8 (VI)], and  $(\text{OCN})_3\text{SiCH}_2\text{CH}_2(\text{CF}_2)_n\text{CH}_2\text{CH}_2\text{Si}(\text{NCO})_3$  [ $n = 4$  (VII), 6 (VIII), or 8 (IX)], were prepared via reactions of  $\alpha,\omega$ -bischlorosilanes I-III with Na methoxide and Ag cyanate, resp. The structures of Si wafer surfaces modified



with the  $\alpha,\omega$ -bismethoxysilanes were studied by polarized FTIR spectroscopy. The bismethoxysilanes reacted with Si wafer surface through only one of the reactive groups,  $-\text{Si}(\text{OCH}_3)_3$ , thereby forming no loop structure on the surface.

RX(1) OF 15      **A** ==> **B...**

RX(1)	RCT	A	<u>678-65-9</u>	
	RGT	C	<u>10025-78-2</u>	HSiCl3
	PRO	B	<u>193622-77-4</u>	
	CAT		16941-12-1	H2PtCl6
	NTE		regioselective	

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L135 ANSWER 15 OF 66 CASREACT COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 136:53866 CASREACT Full-text

TITLE: Four-, Five-, and Six-Membered  
Silaplatainacycles Obtained from the Reaction  
of an Aryllallene with  $\text{Pt}(\text{SiHPh}_2)_2(\text{PMe}_3)_2$

AUTHOR(S): Tanabe, Makoto; Yamazawa, Hideto; Osakada, Kohtaro  
CORPORATE SOURCE: Chemical Resources Laboratory, Tokyo Institute of  
Technology, Midori-ku Yokohama, 226-8503, Japan

SOURCE: Organometallics (2001), 20(22), 4451-4453

CODEN: ORGND7; ISSN: 0276-7333

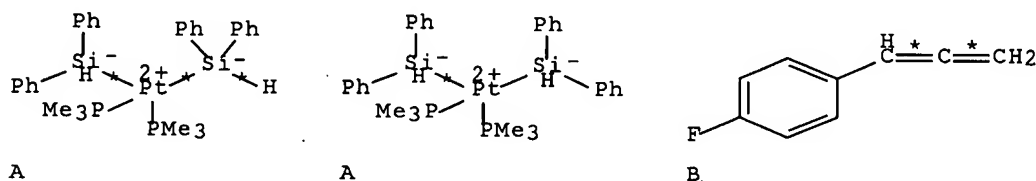
PUBLISHER: American Chemical Society

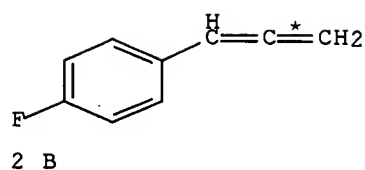
DOCUMENT TYPE: Journal

LANGUAGE: English

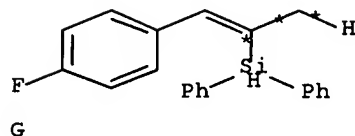
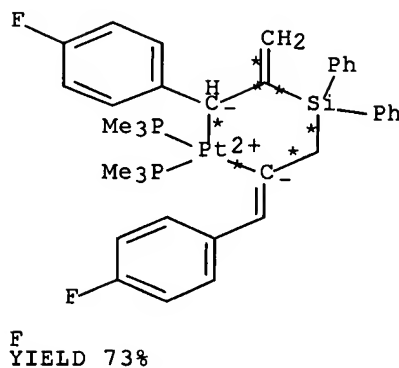
AB The reaction of (4-fluorophenyl)allene with Pt(SiHPh<sub>2</sub>)<sub>2</sub>(PMe<sub>3</sub>)<sub>2</sub> gives 2-sila-1-platinacyclobutane, 2,5-disila-1- platinacyclopentane, or 4-sila-1-platinacyclohexane, depending on the reaction conditions. All these complexes were characterized by x-ray crystallog. and NMR spectroscopy.

RX (3) OF 5      2 **A** + 3 **B** ==> **F** + **G**





(3) →



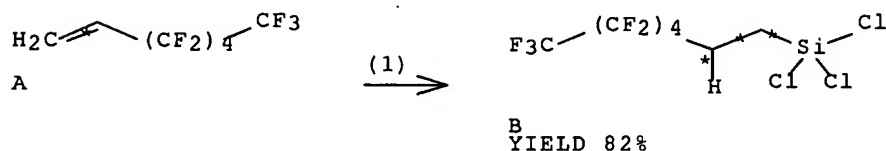
RX (3) RCT A 322478-26-2, B 70090-77-6  
 PRO F 377091-98-0, G 377091-99-1  
 SOL 108-88-3 PhMe  
 NTE room temp., 16h, product depends upon reaction conditions  
 REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L135 ANSWER 16 OF 66 CASREACT COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 131:88045 CASREACT Full-text  
 TITLE: Preparation of fluorine-containing chloro silane by  
platinum-complex catalyzed hydrosilylation of  
 2-(perfluoroalkyl)ethylene using chlorosilane solvent  
 INVENTOR(S): Tanaka, Susumu; Tsuchiya, Katsuyoshi  
 PATENT ASSIGNEE(S): Chisso Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11189598	A	19990713	JP 1997-367037	19971225
PRIORITY APPLN. INFO.:			JP 1997-367037	19971225
OTHER SOURCE(S):			MARPAT 131:88045	

AB 2-(Perfluoroalkyl)ethylchlorosilane derivs. represented by formula  $F(CF_2)_nCH_2CH_2SiCl_m(R_1)_{3-m}$  ( $R_1 = Me, Et, Pr, Bu; m = 1-3; n = 1-15$ ) are prepared by catalytic hydrosilylation of 2-(perfluoroalkyl)ethylene represented by formula  $F(CF_2)_nCH:CH_2$  ( $n = \text{same as above}$ ) with chlorosilanes represented by formula  $HSiCl_m(R_1)_{3-m}$  ( $R_1, m = \text{same as above}$ ) in the presence of a Pt-cong. compound, in particular Pt-cyclovinyldimethylsiloxane complex [Pt0[CH<sub>2</sub>:CHSiMeO]4], wherein chlorosilane compds. represented by formula  $(R_3)_a(R_4)_b(R_5)_cSiCl_{4-(a+b+c)}$  are used as solvent. The use of chlorosilane solvent enables this hydrosilylation to efficiently proceed in high yields for fluoroolefins of relatively low mol. weight under very mild conditions and normal pressure. 2-(Perfluoroalkyl)ethylchlorosilane derivs. are useful as raw materials for coating materials having water-repellent and antifouling properties and durability. Thus, a mixture of 134.2 g  $F(CF_2)_4CH:CH_2$  and 55 mL  $HSiCl_3$  was added dropwise to 125 mL ethylchlorosilane containing 100  $\mu$ L Pt0[CH<sub>2</sub>:CHSiMeO]4 over 2 h and the resulting mixture was aged for 2 h to give 82%  $F(CF_2)_4CH_2CH_2SiCl_3$ .

RX(1) OF 1      A ==> B



RX(1)      RCT    A 84100-13-0  
              RGT    C 10025-78-2  $HSiCl_3$   
              PRO    B 229499-00-7  
              CAT    226921-58-0 Platinum, ( $\eta^4$ -2,4,6,8-tetraethenyl-2,4,6,8-tetramethylcyclotetrasiloxane)-  
              SOL    115-21-9 Silane, trichloroethyl-  
              NTE    reflux for 4 h; the use of ethylchlorosilane as solvent enables hydrosilylation to efficiently proceed under mild condition.

L135 ANSWER 17 OF 66    CASREACT    COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER:      127:34359    CASREACT    Full-text  
 TITLE:                    Preparation of fluorine-containing organosilicon compounds  
 INVENTOR(S):             Aoki, Takanori; Ishimura, Yoshimasa  
 PATENT ASSIGNEE(S):      Showa Denko K. K., Japan  
 SOURCE:                    Jpn. Kokai Tokkyo Koho, 8 pp.  
                               CODEN: JKXXAF  
 DOCUMENT TYPE:          Patent  
 LANGUAGE:                Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09124663	A	19970513	JP 1995-282005	19951030

JP 3774917

B2 20060517

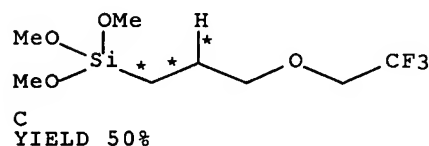
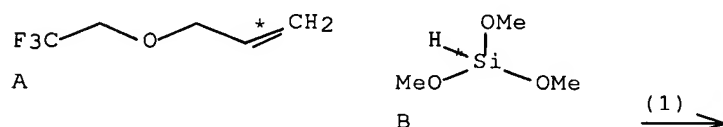
PRIORITY APPLN. INFO.:

JP 1995-282005 19951030

OTHER SOURCE(S):

MARPAT 127:34359

AB The title compds. F3CCH2O(CH2)3Si(OR)3 (I; R = Me, Et) are prepared I are useful as rubber-surface lubricants, stain-proofing, water-proofing, oil-proofing agents. Thus, F3CCH2OCH2CH:CH2 was reacted with (MeO)3SiH in the presence of H2(PtCl6) to give 49.9% I (R = Me), which was tested and showed good properties of stain-proofing, water-proofing, oil-proofing, and rubber-surface lubricating.

RX(1) OF 1      A + B ==> C

RX(1)      RCT    A 1524-54-5, B 2487-90-3  
              PRO    C 189759-28-2  
              CAT    16941-12-1 H2PtCl6  
              SOL    67-63-0 Me2CHOH  
              NTE    80° for 5 h

L135 ANSWER 18 OF 66 CASREACT COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 124:146257 CASREACT Full-text

TITLE: Study of the alkylation of chlorosilanes. Part IV.  
 Influence of the introduction of branched chains on  
 the synthesis and properties of tetra(fluoroalkyl)  
 silanes and  $\alpha,\omega$ -fluoroalkylene disilanes

AUTHOR(S): Boutevin, B.; Guida-Pietrasanta, F.; Ratsimihety, A.;  
 Caporiccio, G.

CORPORATE SOURCE: URA D1193, CNRS, Ecole Nationale Supérieure de Chimie  
 de Montpellier, Montpellier, 34053/1, Fr.

SOURCE: Journal of Fluorine Chemistry (1995), 75(1),  
 75-81

CODEN: JFLCAR; ISSN: 0022-1139

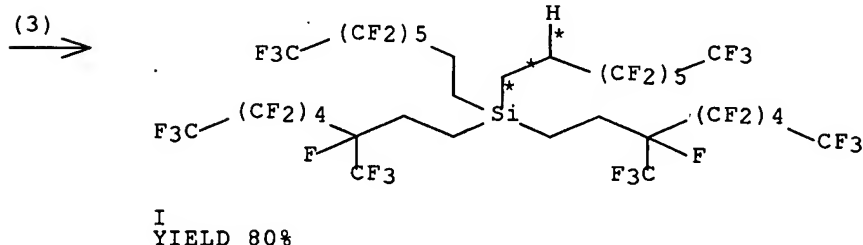
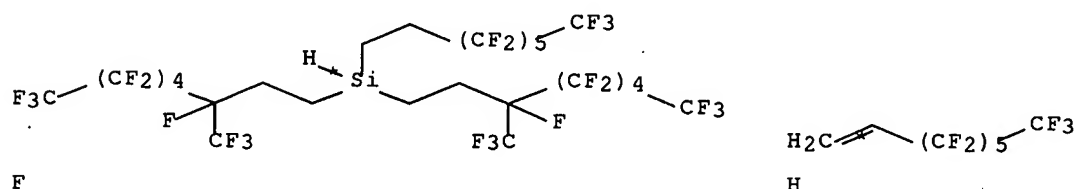
PUBLISHER: Elsevier Sequoia

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis and structural characterization of new tetra(fluoroalkyl)silanes,  $R_1SiR_2R_3R_4$  [ $R_1-4 = (CH_2)_nRF$ ,  $n = 2$  or  $3$ ,  $RF$  is a perfluorinated chain, linear or branched], e.g.,  $SiR_1R_3R_2$  [ $R_1 = C_5H_{11}CF(CF_3)C_2H_4$ ,  $R_2 = C_2H_4C_6F_{13}$  (1)], and  $\alpha,\omega$ -fluoroalkylene disilanes,  $R_1R_2R_3SiR'SiR_1R_2R_3$  [ $R_1-3 = Me$ ,  $-(CH_2)_nRF$  and  $R' = -(CH_2)_nR'F(CH_2)_n-$ ], e.g.,  $RSiCH_3(C_2H_4CF_3)C_2H_4C_6F_{12}C_2H_4SiCH_3(C_2H_4CF_3)R$  (2;  $R = C_2H_4C_6F_{13}$ ), are reported. E.g., 1 is prepared in 3 steps starting from the initial alkylation of  $R_2SiF_3$  by  $R_1MgI$  to give  $R_1R_2SiR_2F$  followed by  $LiAlH_4$ -reduction to give  $R_1R_2SiR_2H$  which effects hydrosilylation of  $C_5H_{11}CF(CF_3)CH:CH_2$  in the presence of H<sub>2</sub>PtCl<sub>6</sub> catalyst. The thermal properties of these new compds. together with those of all the silanes and disilanes previously prepared were studied by DSC. Their refractive indexes are also given.

RX(3) OF 23 ... F + H ==> I



RX(3) RCT F 172412-13-4, H 25291-17-2  
 PRO I 173543-63-0  
 CAT 16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>  
 SOL 67-63-0 Me<sub>2</sub>CHOH

L135 ANSWER 19 OF 66 CASREACT COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 121:57693 CASREACT Full-text  
 TITLE: Single component inorganic/organic network materials and precursors thereof  
 INVENTOR(S): Michalczyk, Michael Joseph; Sharp, Kenneth George  
 PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA  
 SOURCE: PCT Int. Appl., 76 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

## PATENT INFORMATION:

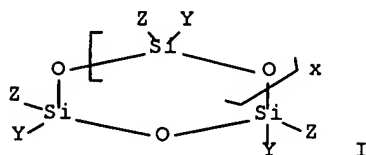
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WO 9406807	A1	19940331	WO 1993-US8685	19930915
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5378790	A	19950103	US 1993-120995	19930913
EP 660839	A1	19950705	EP 1993-921578	19930915
EP 660839	B1	20001122		
EP 660839	B2	20060208		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
JP 08505363	T	19960611	JP 1993-508262	19930915
AT 197713	T	20001215	AT 1993-921578	19930915
CA 2144639	C	20020723	CA 1993-2144639	19930915

## PRIORITY APPLN. INFO.:

US 1992-945777 19920916  
 US 1993-120995 19930913  
 WO 1993-US8685 19930915

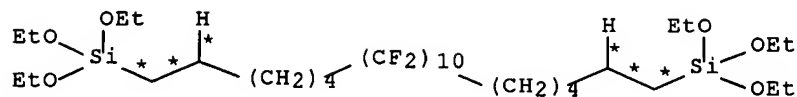
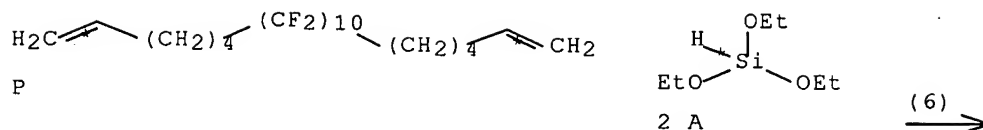
OTHER SOURCE(S): MARPAT 121:57693

GI



AB Single component inorg./organic network materials incorporating the phys. properties of glasses with the flexibility of organic materials of empirical formula  $X(\text{SiO}_{1.5})_n$  [ $n \geq 2$ ;  $X$  = one or more flexible organic linkages, e.g.,  $\text{RlmSiY}_4\text{-m}$ ,  $\text{Y}(\text{CF}_2)_p\text{Y}$ , ring structures I;  $x = 1\text{-}3$ ;  $Z = \text{C1-4 alkyl, 3,3,3-trifluoropropyl, aralkyl, aryl}$ ;  $Y = (\text{CR}_2\text{R}_3)_k\text{CR}_4\text{R}_5\text{CR}_6\text{R}_7(\text{CR}_8\text{R}_9)_h\text{-}$ ;  $\text{R}_1 = \text{C1-8 alkyl, aryl}$ ;  $\text{R}_2\text{-R}_9 = \text{H, C1-8 alkyl, aryl}$ , provided that at least one of  $\text{R}_4\text{-R}_7 = \text{H}$ ;  $m = 0\text{-}2$ ;  $k$  and  $h$  are independently  $0\text{-}10$ , provided that at least one of  $k$  or  $h = 0$ ;  $p = \text{an even integer from } 4\text{-}10]$  as well as precursors thereof, are disclosed. These compds. are useful as intermediates in one-component room-temperature-curing sealant, adhesive and coating applications among other silicone polymer applications. For example, treating  $(\text{EtO})_3\text{Si}(\text{CH}_2)_6(\text{CF}_2)_{10}(\text{CH}_2)_6\text{Si}(\text{OEt})_3$ , prepared in 86% yield from 5.00 g  $[\text{CH}_2:\text{CH}(\text{CH}_2)_4(\text{CF}_2)_5]_2$ , 5.55 g  $(\text{EtO})_3\text{SiH}$ , and 10 drops Pt catalyst in 20 mL PhMe, with 96%  $\text{HCO}_2\text{H}$  in THF gave a clear yellow gel that dried into a clear yellow glassy disk which, after silylation with bis(trimethylsilyl)acetamide, had a surface energy of 15.2 mN/m, substantially less than that for Teflon.

RX(6) OF 7 P + 2 A ==> Q



Q  
YIELD 86%

RX(6) RCT P 155881-97-3, A 998-30-1  
 PRO Q 155881-94-0  
 CAT 7440-06-4 Pt  
 SOL 108-88-3 PhMe

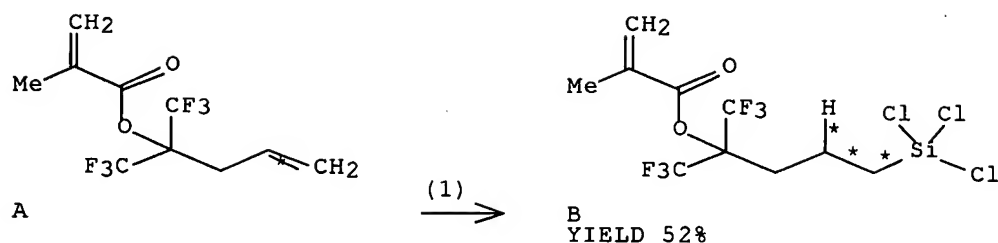
L135 ANSWER 20 OF 66 CASREACT COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 119:226192 CASREACT Full-text  
 TITLE: Fluorine-containing silylalkyl propenoates and process of producing the same  
 INVENTOR(S): Inomata, Hiroshi; Tarumi, Yasuo; Yamaguchi, Hiromasa; Fukuda, Kenichi; Munezawa, Kazutoshi  
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan  
 SOURCE: Eur. Pat. Appl., 9 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 558348	A1	19930901	EP 1993-301500	19930226
EP 558348	B1	19970423		
R: DE, FR, GB				
JP 05239072	A	19930917	JP 1992-78499	19920228
JP 2701103	B2	19980121		
US 5288890	A	19940222	US 1993-24371	19930301
			JP 1992-78499	19920228

PRIORITY APPLN. INFO.:

OTHER SOURCE(S): MARPAT 119:226192

AB  $\text{Xn}(\text{R}_1)_3\text{-nSiCH}_2\text{CH}_2(\text{CH}_2)_m\text{C}(\text{CF}_3)_2\text{O}_2\text{CCR}_2\text{:CH}_2$  (X = a hydrolyzable group; R<sub>1</sub> = monovalent organic group; R<sub>2</sub> = H, Me; n = 1-3; m = 0, 1) useful as coupling agents for laminated sheets of polyester resin and glass and to improve the strength of polyester resin concrete were prepared. Thus, hydrosilylation of  $\text{CH}_2\text{:CHCH}_2\text{C}(\text{CF}_3)_2\text{O}_2\text{CCMe:CH}_2$  with  $\text{Cl}_3\text{SiH}$  in the presence of a 2-ethylhexanol modified complex of H<sub>2</sub>PtCl<sub>6</sub> gave 52%  $\text{Cl}_3\text{Si}(\text{CH}_2)_3\text{C}(\text{CF}_3)_2\text{O}_2\text{CCMe:CH}_2$  which on treatment with MeOH and urea gave 80.4%  $(\text{MeO})_3\text{Si}(\text{CH}_2)_3\text{C}(\text{CF}_3)_2\text{O}_2\text{CCMe:CH}_2$ .

RX(1) OF 1      A ==> B

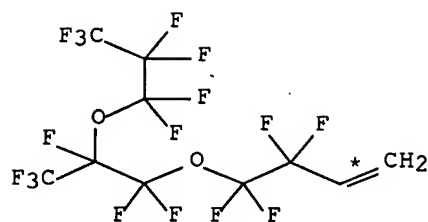
RX(1)      RCT    A 150936-82-6  
              RGT    C 10025-78-2 HSiCl<sub>3</sub>  
              PRO    B 150936-80-4  
              CAT    16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>

L135 ANSWER 21 OF 66    CASREACT    COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER:      119:117518    CASREACT    Full-text  
 TITLE:                    Preparation of polyfluoroalkyl ether derivatives of  
                                  chloroorganosilanes for coatings and as substrate for  
                                  synthesis of silicones  
 INVENTOR(S):            Kishita, Hirofumi; Yamaguchi, Kouichi; Suganuma, Shuji  
 PATENT ASSIGNEE(S):    Shin-Etsu Chemical Co., Ltd., Japan  
 SOURCE:                  Eur. Pat. Appl., 10 pp.  
                                  CODEN: EPXXDW  
 DOCUMENT TYPE:        Patent  
 LANGUAGE:                English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

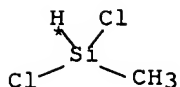
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 538061	A2	19930421	EP 1992-309483	19921016
EP 538061	A3	19940216		
EP 538061	B1	19980318		
R: DE, FR, GB				
JP 05112581	A	19930507	JP 1991-298321	19911017
JP 07078066	B	19950823		
US 5262557	A	19931116	US 1992-961829	19921016
PRIORITY APPLN. INFO.:			JP 1991-298321	19911017
OTHER SOURCE(S):      MARPAT 119:117518				

AB Title compds. F[CF(CF<sub>3</sub>)CF<sub>2</sub>O]<sub>a</sub>(CF<sub>2</sub>)<sub>b</sub>CH<sub>2</sub>CH<sub>2</sub>SiCl<sub>c</sub>R(3-c) (R = C<sub>1</sub>-8 alkyl, aryl; if two R's, they may be same or different; a = integers 1-7; b = integers 2-8; c = integers 1-3) are prepared by platinum-group metal catalyzed hydrosilylation of a polyfluorinated terminal olefin with chlorohydroorganosilanes. Thus, treatment of MeSiHCl<sub>2</sub> with CF<sub>3</sub>CF<sub>2</sub>CF<sub>2</sub>OCF(CF<sub>3</sub>)CF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>CH:CH<sub>2</sub> at 120° in the presence of Pt catalyst for 20 h afforded CF<sub>3</sub>CF<sub>2</sub>CF<sub>2</sub>OCF(CF<sub>3</sub>)CF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>SiMeCl<sub>2</sub> in 67% yield. These compds. are useful as a surface treating agent for silicas, an adhesive improver for resists, an oil- or water-repellent treating agent, and as a raw material for synthesis of various silicone compds. (no data).



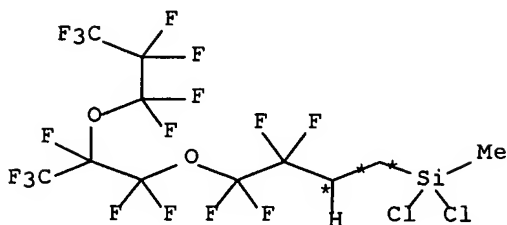
RX(1) OF 2     A + B ==> C

A



B

(1) →

C  
YIELD 67%

RX(1)     RCT    A 149573-00-2, B 75-54-7  
              PRO    C 149538-25-0  
              CAT    7440-06-4 Pt  
              NTE    autoclave

L135 ANSWER 22 OF 66    CASREACT    COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER:     117:70035    CASREACT    Full-text  
 TITLE:                    Preparation of (4-ethoxyphenyl)(3-arylpropyl)dimethylsilanes from hydrosilylation of allylbenzene derivs. with platinum catalyst  
 INVENTOR(S):             Muramatsu, Toru  
 PATENT ASSIGNEE(S):     Hoechst A.-G., Germany  
 SOURCE:                    Ger. Offen., 6 pp.  
                               CODEN: GWXXBX  
 DOCUMENT TYPE:           Patent  
 LANGUAGE:                German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4031001	A1	19920402	DE 1990-4031001	19901001
US 5117028	A	19920526	US 1991-766855	19910927
JP 04288087	A	19921013	JP 1991-252058	19910930

EP 479244

A1 19920408

EP 1991-116778

19911001

R: CH, DE, FR, GB, IT, LI, NL

PRIORITY APPLN. INFO.:

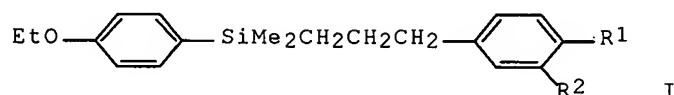
DE 1990-4031001

19901001

OTHER SOURCE(S):

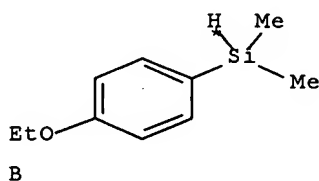
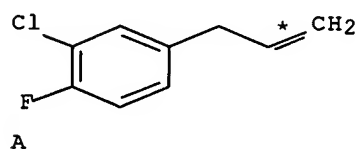
MARPAT 117:70035

GI

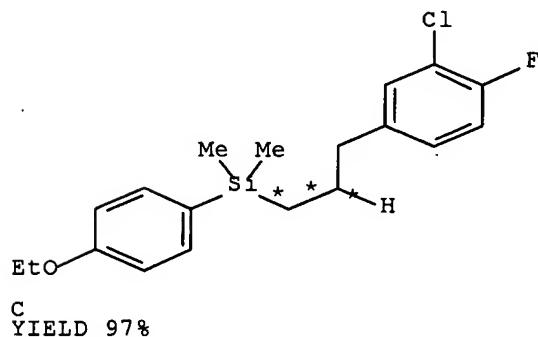


AB A process for the preparation of title compds. I ( $R_1$  = H, halo, C1-4 alkyl, C1-4 alkoxy;  $R_2$  = H, halo, C1-4 alkoxy, (substituted) phenoxy) comprises the treatment of 4-EtOC<sub>6</sub>H<sub>4</sub>SiMe<sub>2</sub>H with CH<sub>2</sub>:CHCH<sub>2</sub>C<sub>6</sub>H<sub>3</sub>R<sub>1</sub>R<sub>2</sub> at from 60°-150°. E.g., 51.6 g of 4-fluoro-3-chloroallylbenzene, 1 drop hexachloroplatinic acid-isopropanol solution were treated with 56 g (4-ethoxyphenyl)dimethylsilane at 95° to give (4-ethoxyphenyl)[3-(4-fluoro-3-chlorophenyl)propyl]dimethylsilane in 96% yield.

RX(1) OF 1      A + B ==> C



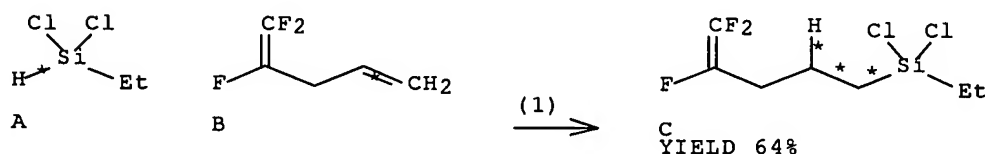
(1) →



RX(1)      RCT    A 121626-73-1, B 36875-64-6  
              PRO    C 121626-74-2  
              CAT    16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>

L135 ANSWER 23 OF 66 CASREACT COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 118:124623 CASREACT Full-text  
TITLE: Hydrosilylation of dienes containing polyfluoroallyl  
substituents  
AUTHOR(S): Gorbunova, T. L.; Khonina, T. G.; Kodess, M. I.;  
Podol'skii, A. V.; Saloutin, V. I.  
CORPORATE SOURCE: Otd. Tonk. Org. Sint., Inst. Khim., Ufa, Russia  
SOURCE: Metalloorganicheskaya Khimiya (1992), 5(5),  
1001-4  
CODEN: MEKHEX; ISSN: 0235-0114  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian

AB New silylated polyfluoro olefins were produced in the H2PtCl6 -catalyzed hydrosilylation of the dienes  $\text{CF}_2\text{:CF}(\text{CF}_2)_n\text{CH}_2\text{CH:CH}_2$  ( $n = 0, 1$ ) with hydrosilanes  $\text{EtCl}_2\text{SiH}$ ,  $\text{Me}(\text{C}_5\text{H}_{11})_2\text{SiH}$  and  $\text{MePh}_2\text{SiH}$ . No isomerization of the double bonds took place under the reaction conditions. Thus, treating  $\text{CF}_2\text{:CFCF}_2\text{CH}_2\text{CH:CH}_2$  with  $\text{Et}_2\text{SiClH}$  in THF containing H2PtCl6 gave 88%  $\text{CF}_2\text{:CFCF}_2(\text{CH}_2)_3\text{SiEt}_2\text{Cl}$ . In the reaction with  $\text{MePh}_2\text{SiH}$ , a byproduct was identified as  $\text{MePh}_2\text{SiF}$  and the duration of the reaction was considerably increased. Addition of  $\text{Ti}(\text{OBu})_4$  accelerates hydrosilylation. Possible reaction mechanisms are discussed.

RX (1) OF 4      A + B ==> C

RX(1) RCT A 1789-58-8, B 401-49-0  
PRO C 146348-12-1  
CAT 16941-12-1 H2PtCl6  
SQL 109-99-9 THF

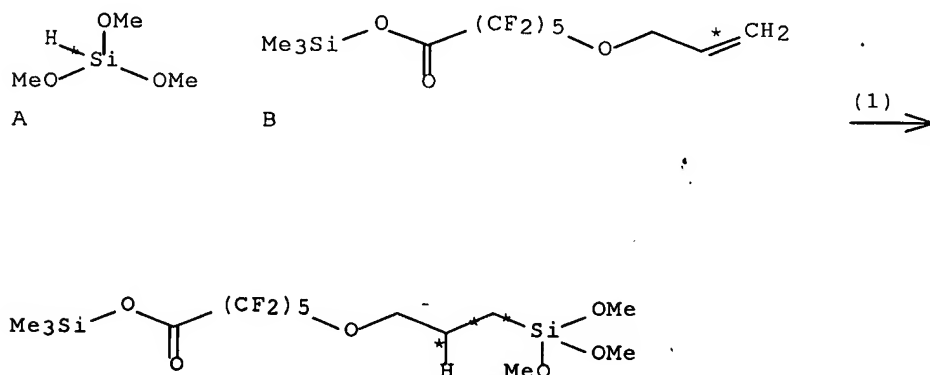
L135 ANSWER 24 OF 66 CASREACT COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 114:185743 CASREACT Full-text  
TITLE: Fluorinated carboxylic acid derivatives and their  
preparation  
INVENTOR(S): Satoh, Shinichi; Koike, Noriyuki; Fujii, Hideki  
PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan  
SOURCE: Ger. Offen., 22 pp.  
CODEN: GWXXBX  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 4024720	A1	19910207	DE 1990-4024720	19900803
DE 4024720	C2	19991125		
JP 03066695	A	19910322	JP 1989-202115	19890803
JP 07010872	B	19950208		
US 5101057	A	19920331	US 1990-562320	19900803
PRIORITY APPLN. INFO.:			JP 1989-202115	19890803

AB The title compds (RO)<sub>n</sub>SiR<sub>1</sub>3-n(CH<sub>2</sub>)<sub>3</sub>OCF<sub>2</sub>ZCO<sub>2</sub>X (I; R, R<sub>1</sub> = substituted or unsubstituted hydrocarbyl group; Z = divalent perfluoroalkyl or perfluoro polyether group; X = H, SiR<sub>2</sub>3; n = 2, 3) were prepared for use as room-temperature vulcanizing agents for organopolysiloxane elastomers, which in turn were tested as metal corrosion inhibitors. I were prepared by hydrosilylation of alkenyl fluorinated carboxylic acid derivs. with (RO)<sub>n</sub>SiR<sub>1</sub>3-nH in the presence of a catalyst, preferably H<sub>2</sub>PtCl<sub>6</sub>. E.g., reaction of 70.0 g CH<sub>2</sub>:CHCH<sub>2</sub>O(CF<sub>2</sub>)<sub>5</sub>CO<sub>2</sub>SiMe<sub>3</sub> with 24.2 g (MeO)<sub>3</sub>SiH in PhMe containing 0.01 g of a 10% aqueous solution of H<sub>2</sub>PtCl<sub>6</sub> gave 95% (MeO)<sub>3</sub>Si(CH<sub>2</sub>)<sub>3</sub>O(CF<sub>2</sub>)<sub>5</sub>CO<sub>2</sub>SiMe<sub>3</sub>.

RX(1) OF 7 ... A + B ==> C



C  
YIELD 95%

RX(1) RCT A 2487-90-3, B 133304-71-9  
 PRO C 133304-64-0  
 CAT 16941-12-1 H<sub>2</sub>PtCl<sub>6</sub>  
 SOL 108-88-3 PhMe

L135 ANSWER 25 OF 66 CASREACT COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 117:34314 CASREACT Full-text

TITLE: Preparation and selectivity characteristics of fluorocarbonaceous bonded stationary phase for reverse-phase high-performance liquid chromatography

AUTHOR(S): Konakahara, Takeo; Okada, Shinichiro; Monde, Takashi; Nakayama, Nobuyuki; Furuhashi, Jun; Sugaya, Junichi

CORPORATE SOURCE: Fac. Sci. Technol., Sci. Univ. Tokyo, Noda, 278, Japan

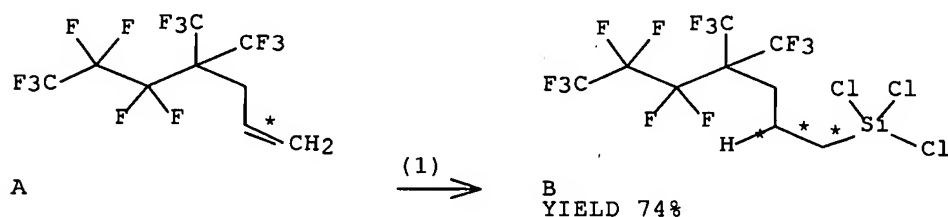
SOURCE: Nippon Kagaku Kaishi (1991), (12), 1638-46

CODEN: NKAKB8; ISSN: 0369-4577

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB 1H,1H,2H,2H,3H,3H-Tridecafluoro(4,4-dimethylheptyl)silanes (3a-3c) were prepared from the corresponding polyfluoroalkene (1) and silanes HSiXY<sub>2</sub> (2a: X = Y = Cl, 2b: X = Cl, Y = CH<sub>3</sub>, 2c: X = Y = OCH<sub>3</sub>) in the presence of H2PtCl<sub>6</sub> in good yields (71-90%). The product silanes (3a, 3b) and dimethyl(1H,1H,2H,2H-tridecafluorooctyl)chlorosilane (4) were used to prepare the corresponding new-type branched- and straight-fluorocarbonaceous bonded stationary phase (PES) for reverse-phase high-performance liquid chromatog. (RP-HPLC). These 3 PFS (polyfluoroalkyl phases were characterized by diffuse reflection FTIR spectra, SEM, silane) combustion anal., N adsorption isotherms, and RP-HPLC. The chromatog. behavior of PFS phases shows an increased selectivity over the octadecyl bonded phase (ODS) for fluoro-, 1,2-difluoro-, 1,2,4-trifluoro-, pentafluoro-, and hexafluorobenzenes, especially for bonded PFS phase showed superior recognition over both the PFS-(4) and ODS phases for 1,3- and 1,4-bis(2,2,2-trifluoro-1-hydroxy-1-trifluoromethylethyl)benzenes. The increases selectivity of PFS for the fluorinated solutes is discussed on the basis of a hydrophobic and/or organophobic interaction between the stationary phase and the solutes.

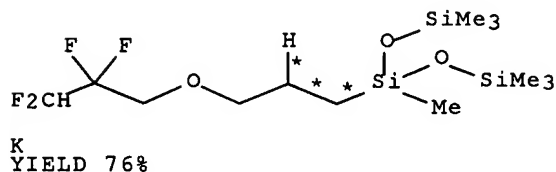
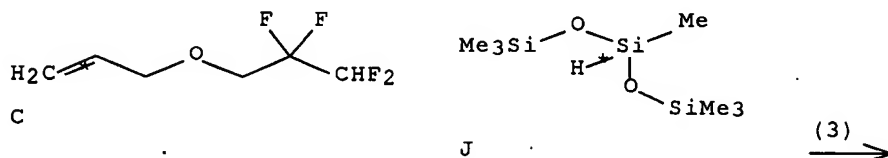
RX(1) OF 5      A ==> B

RX(1)      RCT    A 72487-68-4  
              RGT    C 16941-12-1 H2PtCl<sub>6</sub>, D 10025-78-2 HSiCl<sub>3</sub>  
              PRO    B 130676-80-1

L135 ANSWER 26 OF 66 CASREACT COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 114:207331 CASREACT Full-text  
 TITLE: Oligosiloxanes with functional groups. XI. Synthesis of sodium  $\alpha,\alpha,\omega$ -trihydroperfluoroalkoxypropanesulfonate and  $\alpha,\alpha,\omega$ -trihydroperfluoroalkoxypropoxy siloxanes  
 AUTHOR(S): Sonnek, Georg; Rabe, Christiane; Schmaucks, Gerd; Kaden, Reinfried; Lehms, Ingeburg  
 CORPORATE SOURCE: Zentralinst. Org. Chem., Akad. Wiss. DDR, Berlin, O-1199, Germany  
 SOURCE: Journal of Organometallic Chemistry (1991), 405(2), 179-82  
 CODEN: JORCAI; ISSN: 0022-328X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 AB Several  $\alpha,\alpha,\omega$ -trihydroperfluoroalkyl allyl ethers H(CF<sub>2</sub>CF<sub>2</sub>)<sub>n</sub>CH<sub>2</sub>OCH<sub>2</sub>CH:CH<sub>2</sub> (I; n = 1-3) were prepared in excellent yields by phase transfer catalysis

$\text{H}(\text{CF}_2\text{CF}_2)_n\text{CH}_2\text{OH}$  and allyl chloride using 3-siloxanylpropylammonium halides as a catalyst. In the presence of a Pt-olefin complex the hydrosilylation of I with  $(\text{Me}_3\text{SiO})_2\text{MeSiH}$  affords 3-siloxanylpropoxy- $\alpha,\alpha',\omega$ -trihydrofluoroalkanes in high yields. The reaction of I with aqueous  $\text{NaHSO}_3/\text{Na}_2\text{SO}_3$  solution gives anionic fluorosurfactants beginning with  $n = 3$ .

RX(3) OF 8      ...C + J ==> K



RX(3)      RCT   C 681-68-5, J 1873-88-7  
              PRO   K 133609-13-9  
              CAT   7440-06-4D Pt

=> d bib ab fhit 27-30

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH' - CONTINUE? (Y)/N:y

L135 ANSWER 27 OF 66 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN

AN 200534226 CHEMINFORMRX Full-text

TI Synthesis and Some Properties of Silanes and Siloxanes with 5,5,6,6,7,7,7-Heptafluoro-4,4-bis(trifluoromethyl)heptyl Substituents.

AU SHAMAEV, A. E.; IGNATENKO, A. V.; KRUKOVSKY, S. P.

CS Zelinsky Inst. Org. Chem., Russ. Acad. Sci., Moscow 117913, Russia

SO Russ. Chem. Bull., 53(10), 2229-2232 (2004)

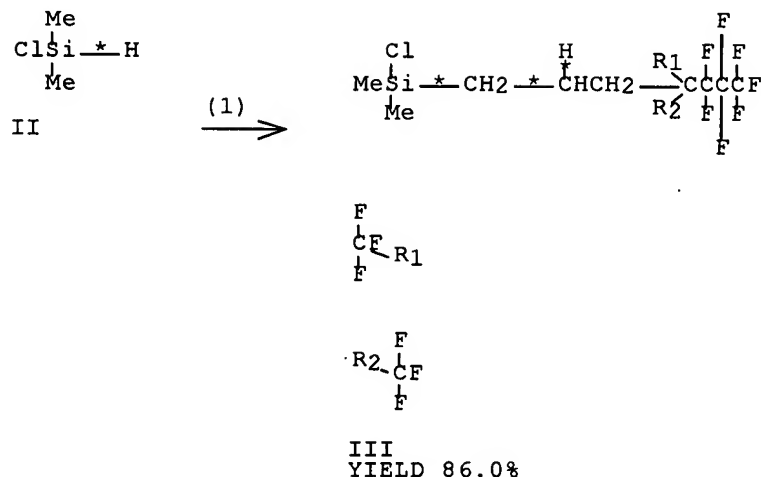
CODEN: RCBUEY ISSN: 1066-5285

LA English

AB Methods for the synthesis of new polyfluorinated silanes and siloxanes are presented. Polymerization of (VI) in the presence of 1,3-divinyldimethyltetramethyldisiloxane affords the corresponding oligomers.

RX(1) OF 9      A + B ==> C...

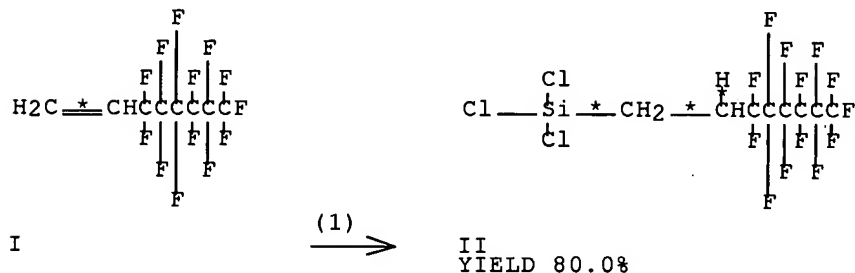
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*



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RX(1)      RCT      I, 8500 (72487-68-4)
           II, 13164 (1066-35-9)
           SOL      5102, neat
           CAT      759 (16941-12-1), H2PtCl6
           PRO      III, 1097717
           YDS      86.0 %
           T        70.0 Cel
           TIM      2.0 hr
           KW       addition; hydrosilylation; silylation; alkylation
           NTE      reaction:I (II) -> III, example: 1
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LI35 ANSWER 28 OF 66 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN  
AN 200219157 CHEMINFORMRX Full-text  
TI Synthesis of Perfluoroalkyl-Containing Multifunctional Groups Compounds  
for Textile Finishing.  
AU QING, F.-L.; JI, M.; LU, R.; YAN, K.; MAO, Z.  
CS Coll. Chem. Chem. Eng., Donghua Univ., Shanghai 200051, Peop. Rep. China  
SO J. Fluorine Chem., 113(1), 139-141 (2002)  
CODEN: JFLCAR ISSN: 0022-1139  
LA English.  
AB Key step in the Synthesis of the title compounds (V) and (VI) is the  
hydrosilylation of alkene (I) by using Karstedt's catalyst.

RX (1) OF 9            A ==&gt; B...







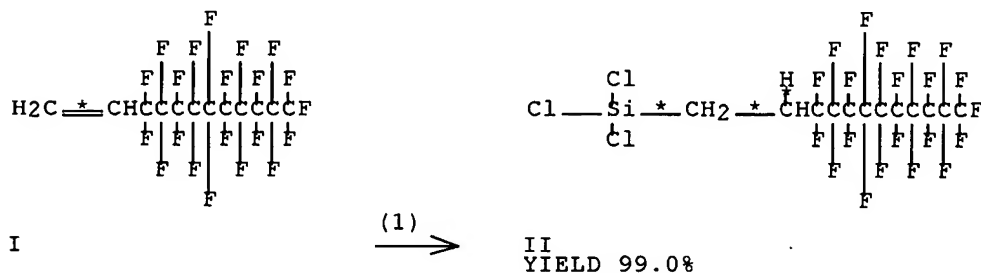
SO Bull. Chem. Soc. Jpn., 66(6), 1754-1758 (1993)

CODEN: BCSJA8 ISSN: 0009-2673

LA English

AB Four silane coupling agents of type (IV) with R: perfluoroalkyl groups (C10, C8, C6, C4) are prepared and used for surface modification of glass plate. From measurements of the contact angles of water and oleic acid against a modified glass plate surface, the coupling agents are found to have high modification ability. The modification produces a glass surface with high oxidation resistance.

RX(1) OF 6 A ==&gt; B...



RX(1) RCT I, 269760 (30389-25-4)  
 RGT 587 (10025-78-2), HSiCl<sub>3</sub>  
 CAT 759 (16941-12-1), H<sub>2</sub>PtCl<sub>6</sub>  
 PRO II, 269761 (102488-49-3)  
 YDS 99.0 %  
 T 100.0 Cel  
 KW addition; hydrosilylation; silylation; alkylation  
 NTE reaction: I -> II, example: 1  
 CMT Ratio = 4:3 for products 1,2

=&gt; d ibib ed abs hitind hitstr 31-37

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH' - CONTINUE? (Y)/N:y

L135 ANSWER 31 OF 66 HCAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 2003:1293 HCAPLUS Full-text

DOCUMENT NUMBER: 138:39404

TITLE: Preparation of organosilanes

INVENTOR(S): Dinh, Paul C.; Phillips, Dennis E.; Brandt, David L.; Maki, William C.

PATENT ASSIGNEE(S): Dow Corning Corporation, USA

SOURCE: U.S., 5 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

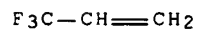
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

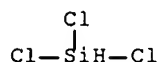
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 6500977 B1 20021231 US 2001-995045 20011127 <--  
 EP 1314735 A2 20030528 EP 2002-257973 20021119 <--  
 EP 1314735 A3 20030917  
 EP 1314735 B1 20070307  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK  
 AT 356134 T 20070315 AT 2002-257973 20021119 <--  
 JP 2003183289 A 20030703 JP 2002-342812 20021126 <--  
 CN 1421447 A 20030604 CN 2002-152756 20021127 <--  
 PRIORITY APPLN. INFO.: US 2001-995045 A 20011127 <--  
 OTHER SOURCE(S): CASREACT 138:39404  
 ED Entered STN: 02 Jan 2003  
 AB Organosilanes were prepared by reacting an alkene halide with a hydrogen silane in the presence of a hydrosilating catalyst. For example, allyl chloride was reacted with HSiCl<sub>3</sub> in the presence of a bimetallic platinum copper catalyst to give a 27.37 weight ratio of desired chloropropyltrichlorosilane to propyltrichlorosilane.  
 IC ICM C07F007-08  
 INCL 556479000  
 CC 29-6 (Organometallic and Organometalloidal Compounds)  
 ST organo silane prepn; chloropropyltrichlorosilane prepn; alkenyl halide hydrosilation hydrogen silane; platinum copper hydrosilation catalyst  
 IT Hydrosilylation  
Hydrosilylation catalysts  
 (preparation of organosilanes by reaction of alkenyl halides with hydrogen silanes in presence of hydrosilylation catalysts)  
 IT Silanes  
 RL: BYP (Byproduct); IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of organosilanes by reaction of alkenyl halides with hydrogen silanes in presence of hydrosilylation catalysts)  
 IT Alkenyl halides  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of organosilanes by reaction of alkenyl halides with hydrogen silanes in presence of hydrosilylation catalysts)  
 IT 141-57-1P  
 RL: BYP (Byproduct); PREP (Preparation)  
 (preparation of organosilanes by reaction of alkenyl halides with hydrogen silanes in presence of hydrosilylation catalysts)  
 IT 7440-06-4D, Platinum, bimetallic catalyst with copper, carbon supported 7440-50-8D, Copper, bimetallic catalyst with platinum, carbon supported  
 RL: CAT (Catalyst use); USES (Uses)  
 (preparation of organosilanes by reaction of alkenyl halides with hydrogen silanes in presence of hydrosilylation catalysts)  
 IT 2550-06-3P  
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of organosilanes by reaction of alkenyl halides with hydrogen silanes in presence of hydrosilylation catalysts)  
 IT 75-01-4, Vinyl chloride, reactions 106-95-6, Allyl bromide, reactions 107-05-1, Allyl chloride 126-99-8, Chloroprene 556-56-9, Allyl iodide 563-47-3, Methallyl chloride 677-21-4, 3,3,3-Trifluoropropene 1073-67-2, 4-Chlorostyrene 1592-20-7, 4-Chloromethyl styrene 10025-78-2, Trichlorosilane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of organosilanes by reaction of alkenyl halides with hydrogen silanes in presence of hydrosilylation)

catalysts)  
 IT 677-21-4, 3,3,3-Trifluoropropene 10025-78-2,  
Trichlorosilane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of organosilanes by reaction of alkenyl halides with  
 hydrogen silanes in presence of hydrosilylation  
catalysts)  
 RN 677-21-4 HCAPLUS  
 CN 1-Propene, 3,3,3-trifluoro- (CA INDEX NAME)



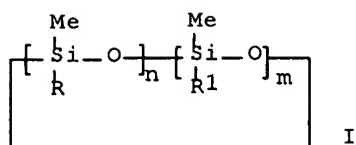
RN 10025-78-2 HCAPLUS  
 CN Silane, trichloro- (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

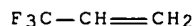
L135 ANSWER 32 OF 66 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2004:188896 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:123755  
 TITLE: Preparation of hydrosilylation  
catalysts from chloroplatinic acid,  
 alkenylpolysiloxanes and cyclosiloxanes  
 INVENTOR(S): Nikolaev, G. A.; Khoroshavina, Yu. V.; Lobkov, V. D.;  
 Kormer, V. A.  
 PATENT ASSIGNEE(S): Russia  
 SOURCE: Russ., No pp. given  
 CODEN: RUXXE7  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Russian  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2220769	C2	20040110	RU 2001-119771	20010716 <--
PRIORITY APPLN. INFO.:			RU 2001-119771	20010716 <--
OTHER SOURCE(S): MARPAT 141:123755				
ED Entered STN: 09 Mar 2004				
GI				



- AB Hydrosilylation catalysts, useful in production of alkylsilanes, are prepared by reaction of chloroplatinic acid with alkenylpolysiloxanes and cyclosiloxanes, preferably I ( $\text{R}' = \text{Et}, \text{CF}_3\text{CH}_2\text{CH}_2, \text{Ph}$ ;  $\text{R} = \text{R}', \text{Me}$ ;  $n = 1-3$ ;  $m = 1-3$ ; and  $n + m = 3$  or  $4$ ) in a solvent at elevated temperature and stirring, with the vinylsiloxane unit-to-Pt ratio being (40-50):1, followed by adding  $\text{NaHCO}_3$  at room temperature Catalysts thus prepared have increased catalytic activity and 2.5-3 times the shelf life of catalysts prepared by prior art. In an example, hydrosilylation of  $\text{CF}_2\text{CH}:\text{CH}_2$  by  $\text{MeSiCl}_2\text{H}$  in presence of a catalyst prepared from H<sub>2</sub>PtCl<sub>6</sub>, polydimethyl(methyl)vinylsiloxanes containing 30% methylvinylsiloxane units and 1,3,5-trimethyl-1,3,5-tris(3,3,3-trifluoropropyl)cyclotrisiloxane in  $\text{Me}_2\text{CHOH}$  and subsequent treatment with  $\text{NaHCO}_3$  and storage for 6 mo gave 99%  $\text{CF}_3\text{CH}_2\text{CH}_2\text{Si}(\text{Me})\text{Cl}_2$ .
- IC ICM B01J037-04  
ICS B01J037-30; B01J023-42; B01J031-06; C08G077-442
- CC 29-6 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 67
- ST hydrosilylation catalyst platinum  
alkenylpolysiloxane cyclosiloxane prepn
- IT Polysiloxanes, reactions  
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(alkenylpolysiloxanes; preparation of hydrosilylation catalysts having improved activity and shelf life from chloroplatinic acid, alkenylpolysiloxanes and cyclosiloxanes)
- IT Hydrosilylation catalysts  
(preparation of hydrosilylation catalysts having improved activity and shelf life from chloroplatinic acid, alkenylpolysiloxanes and cyclosiloxanes)
- IT Cyclosiloxanes  
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(preparation of hydrosilylation catalysts having improved activity and shelf life from chloroplatinic acid, alkenylpolysiloxanes and cyclosiloxanes)
- IT 556-67-2DP, Octamethylcyclotetrasiloxane, reaction products with chloroplatinic acid and polysiloxanes 2374-14-3DP, reaction products with chloroplatinic acid and polysiloxanes 10448-10-9DP, reaction products with chloroplatinic acid and polysiloxanes 15445-52-0DP, reaction products with chloroplatinic acid and polysiloxanes 15901-49-2DP, reaction products with chloroplatinic acid and polysiloxanes 16941-12-1DP, Chloroplatinic acid, reaction products with polysiloxanes and cyclosiloxanes  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preparation of hydrosilylation catalysts having improved activity and shelf life from chloroplatinic acid, alkenylpolysiloxanes and cyclosiloxanes)
- IT 75-54-7, Dichloro(methyl)silane 556-67-2, Octamethylcyclotetrasiloxane 677-21-4, 3,3,3-

**Trifluoropropene** 2374-14-3 10448-10-9 15445-52-0  
 15901-49-2 16941-12-1, **Chloroplatinic acid**  
 RL: **RCT (Reactant); RACT (Reactant or reagent)**  
 (preparation of **hydrosilylation catalysts** having  
 improved activity and shelf life from **chloroplatinic acid**,  
 alkenylpolysiloxanes and cyclosiloxanes)  
 IT 144-55-8, Sodium bicarbonate, reactions  
 RL: RGT (Reagent); RACT (Reactant or reagent)  
 (preparation of **hydrosilylation catalysts** having  
 improved activity and shelf life from **chloroplatinic acid**,  
 alkenylpolysiloxanes and cyclosiloxanes)  
 IT 675-62-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of **hydrosilylation catalysts** having  
 improved activity and shelf life from **chloroplatinic acid**,  
 alkenylpolysiloxanes and cyclosiloxanes)  
 IT **677-21-4, 3,3,3-Trifluoropropene**  
 RL: **RCT (Reactant); RACT (Reactant or reagent)**  
 (preparation of **hydrosilylation catalysts** having  
 improved activity and shelf life from **chloroplatinic acid**,  
 alkenylpolysiloxanes and cyclosiloxanes)  
 RN 677-21-4 HCAPLUS  
 CN 1-Propene, 3,3,3-trifluoro- (CA INDEX NAME)



L135 ANSWER 33 OF 66 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2002:50080 HCAPLUS Full-text  
 DOCUMENT NUMBER: 136:326874  
 TITLE: Synthesis of **perfluoroalkyl**-containing  
 multifunctional groups compounds for textile finishing  
 AUTHOR(S): Qing, Feng-Ling; Ji, Min; Lu, Ronghua; Yan, Kelu; Mao,  
 Zhiping  
 CORPORATE SOURCE: College of Chemistry and Chemical Engineering, Donghua  
 University, Shanghai, 200051, Peop. Rep. China  
 SOURCE: Journal of Fluorine Chemistry (**2002**),  
 113(1), 139-141  
 CODEN: JFLCAR; ISSN: 0022-1139  
 PUBLISHER: Elsevier Science S.A.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 18 Jan 2002  
 AB A new kind of **perfluoroalkyl**-containing multifunctional groups compound was  
 designed. Treatment of 1H,1H,2H,2H- **perfluorooctyltrichlorosilane** with  
 allylmagnesium bromide provided key intermediate 1H,1H,2H,2H-  
**perfluorooctyltriallylsilane**. Hydroboration followed by oxidation, epoxidn.  
 and dihydroxylation of 2 gave **perfluoroalkyl**-containing multifunctional  
 groups.  
 CC 40-9 (Textiles and Fibers)  
 ST **fluoroalkyl** multifunctional compd synthesis textile finishing  
 IT Fabric finishing  
 (synthesis of **perfluoroalkyl**-containing multifunctional groups  
 compds. for textile finishing)  
 IT **25291-17-2P, 1H,1H,2H-Perfluoro-1-octene**  
**78560-45-9P, 1H,1H,2H-Perfluorooctyltrichlorosilane**

193828-95-4P, 1H,1H,2H,2H-Perfluorooctyltriallylsilane  
 415708-49-5P 415708-50-8P, 1H,1H,2H-Perfluorooctyltriglycidylsilane

RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(intermediate; synthesis of perfluoroalkyl-containing multifunctional groups compds. for textile finishing)

IT 74-85-1, Ethylene, reactions 106-95-6, Allyl bromide, reactions  
 355-43-1, 1-Iodoperfluorohexane 10025-78-2,  
Trichlorosilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; synthesis of perfluoroalkyl-containing multifunctional groups compds. for textile finishing)

IT 415708-51-9P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(synthesis of perfluoroalkyl-containing multifunctional groups compds. for textile finishing)

IT 25291-17-2P, 1H,1H,2H-Perfluoro-1-octene

78560-45-9P, 1H,1H,2H-Perfluorooctyltrichlorosilane

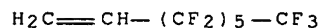
RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(intermediate; synthesis of perfluoroalkyl-containing multifunctional groups compds. for textile finishing)

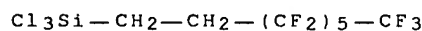
RN 25291-17-2 HCAPLUS

CN 1-Octene, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro- (CA INDEX NAME)



RN 78560-45-9 HCAPLUS

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)- (CA INDEX NAME)



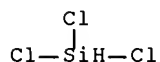
IT 10025-78-2, Trichlorosilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; synthesis of perfluoroalkyl-containing multifunctional groups compds. for textile finishing)

RN 10025-78-2 HCAPLUS

CN Silane, trichloro- (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L135 ANSWER 34 OF 66 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:227664 HCAPLUS Full-text

DOCUMENT NUMBER: 132:265298

TITLE: Fluorous phosphines, processes for their preparation and use in catalysis

INVENTOR(S): Richter, Bodo; De Wolf, Aloysius Cornelius Adrianus; Van Kotten, Gerard; Deelman, Berth Jan

PATENT ASSIGNEE(S): Elf Atochem Vlissingen B.V., Neth.

SOURCE: PCT Int. Appl., 59 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000018774	A1	20000406	WO 1999-NL603	19990929 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9962316	A1	20000417	AU 1999-62316	19990929 <--
EP 1117668	A1	20010725	EP 1999-949444	19990929 <--
EP 1117668	B1	20021211		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AT 229534	T	20021215	AT 1999-949444	19990929 <--
PT 1117668	T	20030430	PT 1999-949444	19990929 <--
ES 2191468	T3	20030901	ES 1999-949444	19990929 <--
US 6458978	B1	20021001	US 2001-787625	20010521 <--
PRIORITY APPLN. INFO.:			EP 1998-203308	A 19980930 <--
			WO 1999-NL603	W 19990929 <--

OTHER SOURCE(S): CASREACT 132:265298; MARPAT 132:265298

ED Entered STN: 07 Apr 2000

AB Fluorous phosphines in which the phosphorus atom is coupled to at least one aryl or alkyl moiety to which a fluorous tail is coupled, wherein a spacer group containing a noncarbon atom is positioned between the aryl or alkyl moiety and the fluorous tail, are claimed. Preferably, the phosphines are monophosphines PRR1R2 [at least one of R, R1 or R2 = alkyl-R3 or (un)substituted aryl-R3; R3 = spacer group coupled to fluorous tail] or diphosphines RR1PZPR2R4 [Z = achiral or chiral bridging hydrocarbyl; at least one of R, R1, R2 or R4 = alkyl-R3 or (un)substituted aryl-R3; R3 = spacer group coupled to fluorous tail], the spacer group is Y(R5)n(R6)3-m-n[(CH2)z]m (Y = Si, Sn, Ge, preferably Si; R5, R6 = C1-14 cycloalkyl, C1-14 aryl, C1-14 cycloaralkyl, C1-14 cycloalkylaryl, and/or fluorous tails; m = 1-3, n = 0-3, where m + n ≤ 3; z = 0-10), and the fluorous tail is a CxF2x+1 group (x = 1-30). A multi-step process for the preparation of said phosphines starting from X(CH2)zCxF2x+1 (same x, z; X = halo) and subsequent formation of metal complexes, catalysts and catalyst compds. therefrom and their use in homogeneous catalysis of hydroformylation, hydroboration, cross-coupling, Heck-type reactions and/or hydrogenation reactions of unsatd. compds. are further claimed. Thus, in examples given, treating 50.0 mmol C6F13CH:CH2 with 180 mmol HSiMe2Cl in presence of 40 mg H2PtCl6 gave 60% C6F13CH2CH2SiMe2Cl,

which in turn reacted with 1 equiv p-BrC<sub>6</sub>H<sub>4</sub>Li in pentane to give 83% p-C<sub>6</sub>F<sub>13</sub>CH<sub>2</sub>CH<sub>2</sub>SiMe<sub>2</sub>C<sub>6</sub>H<sub>4</sub>Br, which when lithiated with tert-BuLi and treated with PCl<sub>3</sub> in THF-hexane gave P[C<sub>6</sub>H<sub>4</sub>(SiMe<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>C<sub>6</sub>F<sub>13</sub>)-p]<sub>3</sub>; this was then reacted with [(COD)RhCl]<sub>2</sub> in PhMe-hexane to give 43% ClRh[P[C<sub>6</sub>H<sub>4</sub>(SiMe<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>C<sub>6</sub>F<sub>13</sub>)-p]<sub>3</sub>. The above rhodium compound catalyzed hydrogenation of 1-octene in 99% conversion with TOF of 1110, as compared to 98% conversion and TOF of 960 for Wilkinson's catalyst.

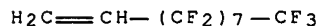
- IC ICM C07F009-50  
ICS C07F015-00; C07B031-00; C07C045-50; C07B037-04; B01J031-24
- CC 29-7 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 21, 67, 78
- ST phosphine fluorous prepn metal complex catalyst;  
hydrogenation catalyst homogeneous rhodium fluorous  
phosphine; cross coupling catalyst nickel fluorous  
phosphine; platinum fluorous phosphine homogeneous  
catalyst prepn; silane spacer fluorous tail phosphine  
prepn
- IT Silanes  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chloro; preparation of organic phosphines having a silane spacer  
group coupled to a fluorous tail as catalyst  
precursors)
- IT Phosphines  
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent); USES (Uses)  
(fluorous; preparation of organic phosphines having a silane spacer  
group coupled to a fluorous tail as catalyst  
precursors)
- IT Alkenes, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation of alkenes in presence of metal complexes of organic  
phosphines having a silane spacer group coupled to a fluorous  
tail as catalysts)
- IT Partition  
(of metal complexes of organic phosphines having a silane spacer group  
coupled to a fluorous tail as catalysts)
- IT Cross-coupling reaction catalysts  
Hydroboration catalysts  
Hydroformylation catalysts  
Hydrogenation catalysts  
(preparation of metal complexes of organic phosphines having a silane  
spacer  
group coupled to a fluorous tail as catalysts)
- IT 108-90-7, Chlorobenzene, reactions 693-03-8, Butylmagnesium  
bromide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(catalytic cross-coupling reaction of chlorobenzene  
with butylmagnesium bromide in presence of nickel catalyst  
having phosphines with a silane spacer group coupled to a  
fluorous tail as ligands)
- IT 104-51-8P, n-Butylbenzene  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(catalytic cross-coupling reaction of chlorobenzene  
with butylmagnesium bromide in presence of nickel catalyst  
having phosphines with a silane spacer group coupled to a  
fluorous tail as ligands)
- IT 111-66-0, 1-Octene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(catalytic hydrogenation of octene in presence of rhodium  
catalyst having phosphines with a silane spacer group coupled



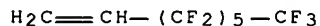
- to a fluorous tail as ligands)
- IT 111-65-9P, n-Octane, preparation  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (catalytic hydrogenation of octene in presence of rhodium  
catalyst having phosphines with a silane spacer group coupled  
 to a fluorous tail as ligands)
- IT 28240-69-9, 1,2-Bis(dichlorophosphino)ethane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (coupling reaction with dibromobenzene)
- IT 2043-53-0 2043-57-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (formation of Grignard; preparation of organic phosphines having a silane  
 spacer group coupled to a fluorous tail as catalyst  
 precursors)
- IT 1066-35-9, Chloro(dimethyl)silane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrosilylation of fluoroalkenes; preparation of organic  
 phosphines having a silane spacer group coupled to a fluorous  
 tail as catalyst precursors)
- IT 21652-58-4 25291-17-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrosilylation of; preparation of organic phosphines having a  
 silane spacer group coupled to a fluorous tail as  
catalyst precursors)
- IT 589-87-7, p-Iodobromobenzene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (lithiation; preparation of organic phosphines having a silane spacer group  
 coupled to a fluorous tail as catalyst precursors)
- IT 6999-03-7P 17881-54-8P 18848-96-9P 29949-81-3P 74612-30-9P  
 102488-47-1P 133096-86-3P 147701-73-3P 201740-57-0P 253434-29-6P  
 253434-30-9P 253434-31-0P 253434-32-1P 253434-33-2P 253434-34-3P  
 263024-36-8P 263024-37-9P 263024-38-0P 263024-39-1P 263024-40-4P  
 263024-41-5P 263024-42-6P 263024-43-7P 263024-44-8P 263024-45-9P  
 263024-46-0P 263024-47-1P 263024-48-2P 263024-49-3P 263148-74-9P  
 263148-75-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation as intermediate in preparation of organic phosphines having a  
 silane  
 spacer group coupled to a fluorous tail as catalyst  
 precursors)
- IT 263024-51-7P 263024-53-9P 263024-54-0P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (preparation of metal complexes of organic phosphines having a silane  
 spacer  
 group coupled to a fluorous tail for use as catalysts  
 )
- IT 12080-32-9 12092-47-6, Chloro(cyclooctadiene)rhodium dimer  
 12245-39-5, (Acetylacetonato)(cyclooctadiene)rhodium 14694-95-2,  
 Wilkinson's catalyst  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of metal complexes of organic phosphines having a silane  
 spacer  
 group coupled to a fluorous tail for use as catalysts  
 )
- IT 263024-52-8P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (preparation of nickel catalyst having phosphines with a silane

spacer group coupled to a fluorous tail as ligands for cross-coupling reaction of chlorobenzene with butylmagnesium bromide)

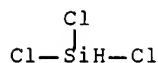
- IT 106-37-6, 1,4-Dibromobenzene 121-45-9, Trimethyl phosphite  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of organic phosphines having a silane spacer group coupled to a  
 a fluorous tail as catalyst precursors)  
 IT 254114-65-3P 254450-89-0P 254450-90-3P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (preparation of rhodium catalyst having phosphines with a silane  
 spacer group coupled to a fluorous tail as ligands for  
 hydrogenation of octene)  
 IT 75-54-7 10025-78-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (silylation of Grignards; preparation of organic phosphines having a silane  
 spacer group coupled to a fluorous tail as catalyst  
 precursors)  
 IT 75-77-4, Chloro(trimethyl)silane, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (silylation with; preparation of organic phosphines having a silane  
 spacer group coupled to a fluorous tail as catalyst  
 precursors)  
 IT 21652-58-4 25291-17-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrosilylation of; preparation of organic phosphines having a  
 silane spacer group coupled to a fluorous tail as  
catalyst precursors)  
 RN 21652-58-4 HCAPLUS  
 CN 1-Decene, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluoro- (CA INDEX  
 NAME)



- RN 25291-17-2 HCAPLUS  
 CN 1-Octene, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro- (CA INDEX NAME)



- IT 10025-78-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (silylation of Grignards; preparation of organic phosphines having a silane  
 spacer group coupled to a fluorous tail as catalyst  
 precursors)  
 RN 10025-78-2 HCAPLUS  
 CN Silane, trichloro- (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L135 ANSWER 35 OF 66 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:356040 HCAPLUS Full-text

DOCUMENT NUMBER: 133:89583

TITLE: Synthesis and Properties of a Novel Family of Fluorous Triphenylphosphine Derivatives

AUTHOR(S): Richter, Bodo; de Wolf, Elwin; van Koten, Gerard; Deelman, Berth-Jan

CORPORATE SOURCE: Department of Metal-Mediated Synthesis Debye Institute, Utrecht University, Utrecht, 3584 CH, Neth.

SOURCE: Journal of Organic Chemistry (2000), 65(13), 3885-3893

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:89583

ED Entered STN: 30 May 2000

AB A novel approach to the preparation of perfluoro-tail-functionalized triarylphosphines using a p-silyl substituent as the branching point was developed. This approach enabled the attachment of between three and nine perfluoro tails per P atom, giving highly fluorous tris[p-(1H,1H,2H,2H-perfluoroalkylsilyl)aryl]phosphines, P[C<sub>6</sub>H<sub>4</sub>-p-SiMe<sub>3</sub>-n(CH<sub>2</sub>CH<sub>2</sub>Cx<sub>2</sub>F<sub>2x+1</sub>)<sub>n</sub>]<sub>3</sub> (n = 1, 2, 3; x = 6, 8), containing between 50 and 67% F. <sup>31</sup>P NMR studies indicate that the P atoms, and consequently the σ-donor and π-acceptor properties of these phosphines, are not influenced by the electron-withdrawing perfluoroalkyl tails. The fluorous triarylphosphines are readily soluble in fluorous solvents and display fluorous phase preference in several fluorous biphasic systems. The phase partitioning of these fluorous ligands, as well as their donor properties, is discussed in relation to their potential for fluorous biphasic catalyst separation

CC 29-7 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 22, 68

ST fluorous triarylphosphine prepn soly partition coeff; phosphine fluorous triaryl prepn soly partition coeff

IT Partition

(of perfluoro-tail-functionalized triarylphosphines between octane and fluorous solvent)

IT Solubility

(of perfluoro-tail-functionalized triarylphosphines in fluorous solvents)

IT Phosphines

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (perfluoro-tail-functionalized triarylphosphines; preparation, NMR, solubility in fluorous solvent and partition coeffs. between octane and fluorous solvent)

IT 280757-19-9P, 1,4-Bis(dimethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silyl)benzene

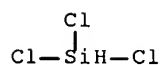
RL: BYP (Byproduct); PREP (Preparation)

(byproduct from (bromophenyl)lithium and fluorous chlorosilane)

IT 589-87-7, p-Bromiodobenzene

- RL: RCT (Reactant); RACT (Reactant or reagent)  
(lithiation followed by metathesis with chlorosilanes)
- IT 106-37-6, 1,4-Dibromobenzene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(lithiation followed by metathesis with phosphorous chloride)
- IT 2043-53-0, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-Heptadecafluoro  
-10-iododecane 2043-57-4, 1,1,1,2,2,3,3,4,4,5,5,6,6-  
Tridecafluoro-8-iodooctane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(metathesis of Grignard reagent with dichloro(methyl)  
silane)
- IT 75-54-7, Dichloro(methyl)silane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(metathesis with fluorous Grignard reagent)
- IT 10025-78-2, Trichlorosilane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(metathesis with fluorous Grignard reagents)
- IT 21652-58-4, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-  
Heptadecafluoro-1-decene 25291-17-2,  
3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluoro-1-octene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(platinum-catalyzed addition reaction with  
chlorodimethylsilane)
- IT 1066-35-9, Chlorodimethylsilane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(platinum-catalyzed addition reaction with  
fluorous alkenes)
- IT 147701-73-3P, Tris(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl  
)silane 263024-36-8P, Methylbis(3,3,4,4,5,5,6,6,7,7,8,8,8-  
tridecafluorooctyl)silane 263024-37-9P,  
Bis(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl  
) (methyl)silane 263024-38-0P, Tris(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-  
heptadecafluorodecyl)silane  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and bromination of)
- IT 29949-81-3P, Tris(4-bromophenyl)phosphine 147701-71-1P,  
Chlorotris(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl  
)silane  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and lithiation followed by metathesis with fluorous  
bromosilanes)
- IT 253434-29-6P, (4-Bromophenyl)dimethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-  
tridecafluorooctyl)silane 253434-30-9P, (4-  
Bromophenyl)(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-  
heptadecafluorodecyl)dimethylsilane  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and lithiation followed by metathesis with phosphorous  
chloride)
- IT 102488-47-1P, Chlorodimethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-  
tridecafluorooctyl)silane  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and metatheses with (bromophenyl)lithium and trilithiated  
triphenylphosphine)
- IT 74612-30-9P, Chloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-  
heptadecafluorodecyl)dimethylsilane  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

- (Reactant or reagent)  
(preparation and metathesis with (bromophenyl)lithium)
- IT 76598-01-1P, 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctylmagnesium  
iodide 249301-95-9P, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecylmagnesium iodide  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)
- (preparation and metathesis with dichloro(methyl)silane)
- IT 263024-39-1P, Bromo(methyl)bis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane 263024-40-4P,  
Bromobis(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl  
) (methyl)silane 263024-41-5P, Bromotris(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)silane  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)
- (preparation and metathesis with trilithiated triphenylphosphine)
- IT 6999-03-7P, (4-Bromophenyl)trimethylsilane 13183-70-5P,  
1,4-Bis(trimethylsilyl)benzene 18848-96-9P, Tris(4-  
(trimethylsilyl)phenyl)phosphine  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation as NMR comparison compound in study of perfluoro  
-tail-functionalized triarylphosphines)
- IT 280757-20-2P, 1,4-Bis((3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)dimethylsilyl)benzene  
RL: BYP (Byproduct); PREP (Preparation)  
(preparation of)
- IT 133096-86-3P, Dimethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)
- IT 253434-33-2P, Tris(4-(dimethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silyl)phenyl)phosphine 253434-34-3P,  
Tris(4-((3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl  
)dimethylsilyl)phenyl)phosphine 263024-42-6P, Tris(4-  
(methylbis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl  
)silyl)phenyl)phosphine 263024-43-7P, Tris(4-  
(tris(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl  
)silyl)phenyl)phosphine 263024-44-8P, Tris(4-  
(bis(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl  
) (methyl)silyl)phenyl)phosphine 263148-74-9P, Tris(4-  
(tris(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl  
)silyl)phenyl)phosphine  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation, solubility in fluorous solvent and partition coeffs.  
between octane and fluorous solvent)
- IT 10025-78-2, Trichlorosilane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(metathesis with fluorous Grignard reagents)
- RN 10025-78-2 HCAPLUS  
CN Silane, trichloro- (CA INDEX NAME)



- IT 21652-58-4, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluoro-1-decene 25291-17-2,

10/583,553

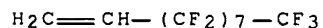
3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluoro-1-octene

RL: RCT (Reactant); RACT (Reactant or reagent)

(platinum-catalyzed addition reaction with  
chlorodimethylsilane)

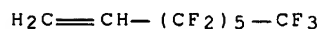
RN 21652-58-4 HCAPLUS

CN 1-Decene, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluoro- (CA INDEX NAME)



RN 25291-17-2 HCAPLUS

CN 1-Octene, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro- (CA INDEX NAME)



REFERENCE COUNT: 66 THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L135 ANSWER 36 OF 66 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:234135 HCAPLUS Full-text

DOCUMENT NUMBER: 118:234135

TITLE: Study of the alkylation of chlorosilanes.

Part I. Synthesis of tetra(1H,1H,2H,2H-  
polyfluoroalkyl)silanes

AUTHOR(S): Boutevin, B.; Guida-Pietrasanta, F.; Ratsimihety, A.;  
Caporiccio, G.; Gornowicz, G.

CORPORATE SOURCE: ENSCM, Montpellier, 34053, Fr.

SOURCE: Journal of Fluorine Chemistry (1993),  
60(2-3), 211-23

CODEN: JFLCAR; ISSN: 0022-1139

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 118:234135

ED Entered STN: 12 Jun 1993

AB The synthesis and structural characterization of tetra(1H,1H,2H,2H-  
polyfluoroalkyl)silanes with the same or different chain lengths  $\text{C}_n\text{F}_{2n+1}$   
linked to Si ( $1 \leq n \leq 6$ ) is reported. When the synthesis was effected from  
chlorosilanes and fluorinated organomagnesium or organolithium reagents, the  
trialkylsilanes were obtained. The last fluorinated chain was introduced  
either via a fluoroalkyllithium reagent or by hydrosilylation of the  
trialkylsilanes. Some properties and characterization by 1H, 19F and 29Si NMR  
spectroscopy of the 1H,1H,2H,2H- polyfluoroalkylsilanes are described.

CC 29-6 (Organometallic and Organometalloidal Compounds)

ST alkylation chlorosilane fluorinated organomagnesium  
organolithium reagent; silane polyfluoroalkyl;  
fluoroalkyl silane

IT Alkylation  
(agents, of chlorosilanes with  
polyfluoroalkylmagnesium or -lithium)

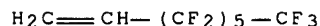
IT Silanes

RL: RCT (Reactant); RACT (Reactant or reagent)

(chloro, alkylation of, with polyfluoroalkylmagnesium)

- or -lithium reagents)
- IT 592-09-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(alkylation of, with polyfluoroalkylmagnesium chloride)
- IT 10026-04-7, Silicon tetrachloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(alkylation of, with polyfluoroalkylmagnesium iodide)
- IT 870-56-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrosilylation by, of polyfluoroalkene)
- IT 25291-17-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrosilylation of)
- IT 10025-78-2, Trichlorosilane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrosilylation with polyfluoroalkene or  
alkylation of, with polyfluoroalkylmagnesium iodide)
- IT 461-21-2P, 3,3,3-Trifluoropropylmagnesium chloride  
76598-01-1P 147701-78-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and alkylation by, of chlorosilanes)
- IT 147701-76-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and alkylation of, with polyfluoroalkyllithium)
- IT 4168-09-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and alkylation of, with polyfluoroalkylmagnesium chloride)
- IT 78560-45-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and alkylation of, with polyfluoroalkylmagnesium halide)
- IT 147701-75-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and alkylation of, with polyfluoroalkylmagnesium iodide)
- IT 147701-73-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and hydrosilylation by, of  
tridecafluorooctene)
- IT 682-37-1P 147701-71-1P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and substitution of, with fluoride)
- IT 462-55-5P 1467-13-6P, Tetrakis(3,3,3-trifluoropropyl)silane  
20466-96-0P, Fluorotris(3,3,3-trifluoropropyl)silane  
76597-99-4P 80793-17-5P 147701-72-2P 147701-74-4P 147701-77-7P  
147701-79-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)
- IT 25291-17-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrosilylation of)
- RN 25291-17-2 HCAPLUS

CN 1-Octene, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro- (CA INDEX NAME)

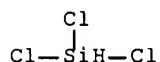


IT 10025-78-2, Trichlorosilane

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrosilylation with polyfluoroalkene or  
 alkylation of, with polyfluoroalkylmagnesium iodide)

RN 10025-78-2 HCAPLUS

CN Silane, trichloro- (CA INDEX NAME)

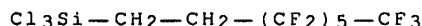


IT 78560-45-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and alkylation of, with polyfluoroalkylmagnesium  
 halide)

RN 78560-45-9 HCAPLUS

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)- (CA INDEX NAME)



L135 ANSWER 37 OF 66 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1968:48668 HCAPLUS Full-text

DOCUMENT NUMBER: 68:48668

ORIGINAL REFERENCE NO.: 68:9390h,9391a

TITLE: Mechanism of homogeneous catalytic  
hydrosilylation in the presence of  
H<sub>2</sub>PtCl<sub>6</sub>.6H<sub>2</sub>O

AUTHOR(S): Kagan, E. G.

CORPORATE SOURCE: Vses. Nauch.-Issled. Inst. Sint. Kauch. im. Lebedeva,  
 Leningrad, USSR

SOURCE: Zhurnal Obshchei Khimii (1967), 37(7),  
 1692-3

CODEN: ZOKHA4; ISSN: 0044-460X

DOCUMENT TYPE: Journal

LANGUAGE: Russian

ED Entered STN: 12 May 1984

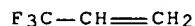
GI For diagram(s), see printed CA Issue.

AB The homogeneous, catalyzed reaction  $\text{RCH}:\text{CH}_2 + \text{MeSiHCl}_2$  in the presence of  
H<sub>2</sub>PtCl<sub>6</sub>.6H<sub>2</sub>O, which forms  $\text{RCH}_2\text{CH}_2\text{SiMeCl}_2$  was shown dilatometrically to have  
 kinetic order or unity, overall, and not 2, provided that the reactants are  
 used in 1:1 molar ratio; with excess of silane the reaction is of 1st order



relative to silane but not the olefin. Only with sluggish and weakly active olefin such as  $\text{CF}_3\text{CH}=\text{CH}_2$  with excess silane was the 2nd-order reaction observed over a narrow range of conversions. Hence the above reaction has several steps in which the rate determining step is that in which  $\text{MeSiHCl}_2$  takes part. With pre-prepared catalyst complex the reaction is of 1st order and its rate is proportional to sq. root of Pt concentration. The mechanism shown is suggested for the catalysis. The slow step is the cleavage of Si-H bond in the reaction of the silane with the catalyst.

CC 22 (Physical Organic Chemistry)  
 ST MECHANISM HYDROSILYLATION; HYDROSILYLATION  
CATALYTIC; CATALYTIC HYDROSILYLATION  
 IT Hydrosilylation catalysts  
 (dihydrogen hexachloroplatinate(2-) as, for olefins)  
 IT Hydrosilylation  
 (of propene and of 3,3,3-trifluoropropene, mechanism of)  
 IT 16941-12-1  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, for hydrosilylation of olefins)  
 IT 115-07-1, reactions 677-21-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrosilylation of, mechanism of)  
 IT 677-21-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrosilylation of, mechanism of)  
 RN 677-21-4 HCAPLUS  
 CN 1-Propene, 3,3,3-trifluoro- (CA INDEX NAME)



=> d ibib ab hitstr 38-39

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH' - CONTINUE? (Y)/N:y

L135 ANSWER 38 OF 66 USPATFULL on STN

ACCESSION NUMBER: 1999:19386 USPATFULL Full-text  
 TITLE: Process for preparing fluoroalkyl-containing  
 organosilicon compounds, and their use  
 INVENTOR(S): Jenker, Peter, Rheinfelden, Germany, Federal Republic  
 of  
 Frings, Albert-Johannes, Rheinfelden, Germany, Federal  
 Republic of  
 Horn, Michael, Rheinfelden, Germany, Federal Republic  
 of  
 Monkiewicz, Jaroslaw, Rheinfelden, Germany, Federal  
 Republic of  
 Standke, Burkhard, Loerrach, Germany, Federal Republic  
 of  
 PATENT ASSIGNEE(S): Huels Aktiengesellschaft, Marl, Germany, Federal  
 Republic of (non-U.S. corporation)

NUMBER	KIND	DATE
-----	-----	-----

PATENT INFORMATION: US 5869728 19990209 <--  
 APPLICATION INFO.: US 1997-955290 19971021 (8) <--

	NUMBER	DATE	
PRIORITY INFORMATION:	DE 1996-19644561	19961026	<--
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Shaver, Paul F.		
LEGAL REPRESENTATIVE:	Oblon, Spivak, McClelland, Maier & Neustadt, P.C.		
NUMBER OF CLAIMS:	20		
EXEMPLARY CLAIM:	1		
LINE COUNT:	513		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

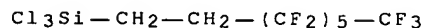
AB Fluoroalkyl organosilicon compounds are prepared by reacting fluoroolefins with organosilicon compounds that contain at least one H--Si group, in the presence of a Pt(0) complex catalyst. Further, fluoroalkylalkoxy organosilicon compounds are prepared by esterifying fluoroalkyl organosilicon compounds. The process proceeds uniformly under mild conditions with high yields and selectivities.

IT 78560-45-9P

(preparation of)

RN 78560-45-9 USPATFULL

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)- (CA INDEX NAME)

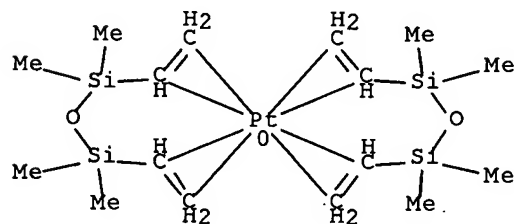


IT 81032-58-8

(preparation of fluoroalkyl-containing organosilicon compds. via platinum catalyzed reaction of silicon-hydrogen bond containing organosilane with fluoro olefin)

RN 81032-58-8 USPATFULL

CN Platinum, bis[1,3-bis(η<sup>2</sup>-ethenyl)-1,1,3,3-tetramethyldisiloxane]- (9CI) (CA INDEX NAME)



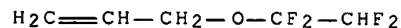
IT 1428-33-7, 1,1,2,2-Tetrafluoroethyl allyl ether

10025-78-2, Trichlorosilane 25291-17-2

(preparation of fluoroalkyl-containing organosilicon compds. via platinum catalyzed reaction of silicon-hydrogen bond containing organosilane with fluoro olefin)

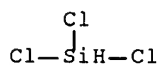
RN 1428-33-7 USPATFULL

CN 1-Propene, 3-(1,1,2,2-tetrafluoroethoxy)- (CA INDEX NAME)



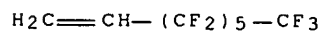
RN 10025-78-2 USPATFULL

CN Silane, trichloro- (CA INDEX NAME)



RN 25291-17-2 USPATFULL

CN 1-Octene, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro- (CA INDEX NAME)



L135 ANSWER 39 OF 66 USPATFULL on STN

ACCESSION NUMBER: 84:33240 USPATFULL Full-text

TITLE: Process for preparing tetrafluoroethoxyalkyl silanes

INVENTOR(S): Zeller, Norbert, Burghausen, Germany, Federal Republic of

Riedle, Rudolf, Burghausen, Germany, Federal Republic of

Lindner, Tassilo, Mehring-Oed, Germany, Federal Republic of

Wagner, Wolfgang, Tokyo, Japan

PATENT ASSIGNEE(S): Wacker Chemie GmbH, Munich, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 4454331		19840612	<--
APPLICATION INFO.:	US 1982-401785		19820726 (6)	<--

	NUMBER	DATE	
PRIORITY INFORMATION:	DE 1981-3138236	19810925	<--
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Shaver, Paul F.		
NUMBER OF CLAIMS:	5		
EXEMPLARY CLAIM:	1		
LINE COUNT:	265		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention relates to a process for preparing tetrafluoroethoxyalkyl silanes by the addition of silanes containing Si-bonded hydrogen to tetrafluoroethyl-alkenylether in a tubular reactor in which the reaction

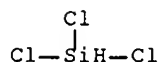
mixture containing an excess of silanes is recycled at a rate of at least 10 meters per minute.

IT 10025-78-2

(hydrosilylation by, of allyl ethers)

RN 10025-78-2 USPATFULL

CN Silane, trichloro- (CA INDEX NAME)

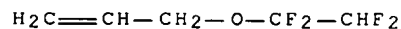


IT 1428-33-7

(hydrosilylation of)

RN 1428-33-7 USPATFULL

CN 1-Propene, 3-(1,1,2,2-tetrafluoroethoxy)- (CA INDEX NAME)



=> d iall abeq tech abex fraghitstr 40-62

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH' - CONTINUE? (Y)/N:y

L135 ANSWER 40 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 2003-523180 [49] WPIX  
 DOC. NO. CPI: C2003-140777 [49]  
 TITLE: Preparation of compounds containing silicon  
 -carbon bonds involves reacting hydridoalkoxysilane with  
 olefin in the presence of platinum  
catalyst and weakly nucleophilic amine  
 DERWENT CLASS: E11  
 INVENTOR: CHILDRESS R S; CHILDRESS S R; FILIPKOWSKI M A; HALE M B;  
 HIMMELDIRK R S; WESTMEYER M D; CHILDRESS S; FILIPKOWSKI  
 M; HALE M; HIMMELDIRK R; WESTMEYER M  
 PATENT ASSIGNEE: (CROM-N) CROMPTON CORP; (GENE-C) GENERAL ELECTRIC CO  
 COUNTRY COUNT: 36

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC	
WO 2003044028	A1	20030530	(200349)*	EN	31[0]		<--
US 6590117	B1	20030708	(200353)	EN			<--
EP 1448573	A1	20040825	(200456)	EN			<--
BR 2002014261	A	20040921	(200470)	PT			<--
JP 2005509684	W	20050414	(200527)	JA	28		
CN 1615313	A	20050511	(200558)	ZH			
KR 2005036899	A	20050420	(200637)	KO			
EP 1448573	B1	20070418	(200729)	EN			
DE 60219667	E	20070531	(200736)	DE			

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003044028	A1	WO 2002-US32826	20021015
US 6590117	B1	US 2001-4156	20011115
BR 2002014261	A	BR 2002-14261	20021015
CN 1615313	A	CN 2002-827087	20021015
EP 1448573	A1	EP 2002-778555	20021015
EP 1448573	B1	EP 2002-778555	20021015
EP 1448573	A1	WO 2002-US32826	20021015
BR 2002014261	A	WO 2002-US32826	20021015
JP 2005509684	W	WO 2002-US32826	20021015
KR 2005036899	A	WO 2002-US32826	20021015
EP 1448573	B1	WO 2002-US32826	20021015
JP 2005509684	W	JP 2003-545665	20021015
KR 2005036899	A	KR 2004-707414	20040514
DE 60219667	E	DE 2002-619667	20021015
DE 60219667	E	EP 2002-778555	20021015
DE 60219667	E	WO 2002-US32826	20021015

## FILING DETAILS:

PATENT NO	KIND		PATENT NO	
EP 1448573	A1	Based on	WO 2003044028	A
BR 2002014261	A	Based on	WO 2003044028	A
JP 2005509684	W	Based on	WO 2003044028	A
KR 2005036899	A	Based on	WO 2003044028	A
EP 1448573	B1	Based on	WO 2003044028	A
DE 60219667	E	Based on	EP 1448573	A
DE 60219667	E	Based on	WO 2003044028	A

PRIORITY APPLN. INFO: US 2001-4156 20011115

INT. PATENT CLASSIF.:

MAIN: C07F007-08; C07F007-18  
 SECONDARY: C07F007-14  
 IPC ORIGINAL: C07F0007-00 [I,C]; C07F0007-14 [I,A];  
 C07F0007-18 [I,A]; C07F0007-00 [I,C]; C07F0007-14  
 [I,A]; C07F0007-18 [I,A]

IPC RECLASSIF.: C07B0061-00 [I,A]; C07B0061-00 [I,C]; C07F0007-00 [I,C];  
 C07F0007-08 [I,A]; C07F0007-18 [I,A]

## BASIC ABSTRACT:

WO 2003044028 A1 UPAB: 20060119

NOVELTY - Compounds containing silicon-carbon bonds are prepared by reacting hydridoalkoxysilane with olefin in the presence of platinum catalyst and a weakly nucleophilic amine.

DETAILED DESCRIPTION - Preparation of compounds containing silicon-carbon bonds involves reacting hydridoalkoxysilane with olefin in the presence of platinum catalyst and a weakly nucleophilic amine of formula NZ1Z2Z3.

Z1 = aryl, alkaryl, or aralkyl group of 6-20C or organosilyl substituent of formula SiR3;

R = 1-20C alkyl or 6-10C aryl;

Z2 = H, 1-20C alkyl, aryl, alkaryl, or 6-20C aralkyl, or SiR3;

Z3 = Z1 or Z2.

Optionally two of Z1, Z2, or Z3 taken together with the nitrogen atom form an aromatic heterocyclic ring.

USE - For preparing compounds containing silicon-carbon bonds.

ADVANTAGE - The invention improves the reactivity and selectivity of

the transition metal-catalyzed hydrosilation reactions of olefins, and exhibits improved yields and selectivities with respect to the desired reaction products. It allows the use of lower molar excess of olefins due to reduction of competing olefin isomerization side-reaction.

MANUAL CODE: CPI: E05-E01; E05-E02; E05-E03; E06-F04; E06-H; E07-D04C; E07-H; E10-B04; E10-G02H2B; E10-H01D; E10-H01E; E10-J02C4; N02-F; N05-B; N05-C; N05-D

## TECH

ORGANIC CHEMISTRY - Preferred Process: The reaction is conducted at ambient temperature to 150degreesC and 0.2-2 atm. A molar excess of olefin relative to the hydridoalkoxysilane is employed in the reaction.

Preferred Component: The hydridoalkoxysilane corresponds to formula  $R'nX3-nSiH$ . It can be tri-n-propoxysilane, triisopropoxysilane, methyldimethoxysilane, methyldiethoxysilane, dimethylmethoxysilane, dimethylethoxysilane, or preferably trimethoxysilane or triethoxysilane. The olefin is ethylene, propylene, butene, pentene, hexene, octene, hexadecene, octadecene, trivinylcyclohexene, 2-methylpropene, 2-methylbutene, diisobutylene, tert. amylene, 2-butene, vinylcyclohexene monoxide, allyl glycidyl ether, allyl esters, allyl tert. amines and their methallyl derivatives, N-allylaniline, N,N-dimethylallylamine, N-ethylmethallylamine, vinyl esters and ethers, vinylsilanes, or (meth)acrylates. It can be ethylene, propylene, butene, pentene, hexene, octene, hexadecene (preferably), octadecene, trivinylcyclohexene, 2-methylpropene, 2-methylbutene, or diisobutylene. It may be amino olefin. The weakly nucleophilic amine is aniline, hexamethyldisilazane, phenothiazine, aminonaphthalene, benzylamine, pyridine, or their derivatives.

R' = optionally branched 1-18C alkyl, cyclic alkyl group of 4-8 carbon or aryl, alkaryl, or 6-12C aralkyl, optionally containing halo, O, or N substituents;

X = -OR, preferably ethoxy or methoxy;

n = 0-2.

The substituents do not interfere with hydrosilation or promotion.

Preferred Composition: The weakly nucleophilic amine is used at 25-20000 ppm by weight of the combined weight of hydridoalkylsilane and olefin.

POLYMERS - Preferred Component: The olefin can be allyl polyethers.

INORGANIC CHEMISTRY - Preferred Component: The platinum catalyst is chloroplatinic acid.

ABEX EXAMPLE - A reaction was conducted using 10% molar excess 4-vinylcyclohexene monoxide versus trimethoxysilane, amine promoter (640 ppm), and 10 ppm platinum as a solution of chloroplatinic acid at 90degreesC followed by 1 hour at 90degreesC after the addition was completed. The product had 92.2%.

AN.S DCR-129547

CN.P PLATINIC CHLORIDE

SDCN R01998

SDRN 1998

CM 1

Cl

CM 2

Pt

CM 3

Cl

AN.S DCR-200553

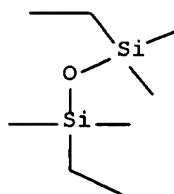
CN.S 1,1,3,3-Tetramethyl-1,3-divinyl-disiloxane platinum (O);  
PLATINUM-1,3-DIVINYLL-1,1,3,3-TETRAMETHYLDISILOXANE COMPLEX

SDCN RA00AL

CM 1

Pt

CM 2



AN.S DCR-132606

CN.P PLATINUM(IV)-ION

SDCN R12939

AN.S DCR-133403

CN.P PLATINUM(II)-ION

SDCN R15854

AN.S DCR-140

CN.P PLATINUM

SDCN R03247

L135 ANSWER 41 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 2002-187742 [24] WPIX  
 DOC. NO. CPI: C2002-057899 [24]  
 TITLE: Preparation of organosilane functionalized in the three  
 position, i.e. chloropropyltrichlorosilane,  
 involves reacting allyl compound with silane in reaction  
 column in the presence of heterogeneous platinum  
catalyst  
 DERWENT CLASS: E11  
 INVENTOR: BATZ-SOHN C; SONNENSCHN R  
 PATENT ASSIGNEE: (BATZ-I) BATZ-SOHN C; (SONN-I) SONNENSCHN R  
 COUNTRY COUNT: 1

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
-----						

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20020008011	A1 Provisional	<u>US 2000-192575P</u>	<u>20000328</u>
US 20020008011	A1	<u>US 2001-818997</u>	<u>20010328</u>

PRIORITY APPLN. INFO: US 2001-818997 20010328  
US 2000-192575P 20000328

## INT. PATENT CLASSIF.:

IPC RECLASSIF.: B01D0003-00 [I,A]; B01D0003-00 [I,C]; C07F0007-00 [I,C];  
C07F0007-08 [I,A]; C07F0007-14 [I,A];  
C07F0007-18 [I,A]

## BASIC ABSTRACT:

US 20020008011 A1 UPAB: 20050525

NOVELTY - An organosilane functionalized in the three position is prepared by reacting an allyl compound with silane in a reaction column at 1-25 bar in the presence of a heterogeneous platinum catalyst.

DETAILED DESCRIPTION - Preparation of organosilane functionalized in the 3 position, i.e. chloropropyltrichlorosilane, involves reacting an allyl compound of formula (I)  $H_2C=CH-CH_2X$  with a silane of formula (II)  $R_2R_3R_4SiH$  in a reaction column at 1-25 bar in the presence of a heterogeneous platinum catalyst.

$R_2, R_3, R_4 = H, \text{halo}, 1-6C (\text{halo})\text{alkyl}, 3-6C \text{ allyl}, 1-4C \text{ alkoxy}, \text{Ph}, \text{aryl}, \text{or aralkyl};$

$X = I, \text{Cl}, \text{Br}, \text{F}, \text{CN}, \text{SCN}, \text{SH}, \text{OH}, \text{SR}, \text{NRR1}, \text{OR}; \text{and}$

$R, R1 = 1-6C \text{ alkyl}, 3-7C \text{ allyl}.$

USE - For preparing of organosilane functionalized in the 3 position.

ADVANTAGE - The invention does not contain undesirable quantities of allyl chloride.

MANUAL CODE: CPI: E05-E01; E05-E02; E05-E02D

## TECH

ORGANIC CHEMISTRY - Preferred Method: Distillation takes place simultaneously with the reaction in the reaction column including a reaction zone with two separation zones. A first product exits a first end of the reaction zone and a second product exits a second end of the reaction zone. Unreacted silane in the first product is condensed and at least a portion of it is reintroduced into the reaction zone. A portion of the second product is vaporized and at least a portion of the vaporized stream is reintroduced into the reaction zone. Preferred Component: The silane is present in a stoichiometric excess with respect to the allyl compound.

ABEX SPECIFIC COMPOUNDS - The organosilane functionalized in the 3 position is chloropropyltrichlorosilane. The allyl compound is allyl chloride. The silane is trichlorosilane.

EXAMPLE - Trichlorosilane and allyl chloride were supplied to a reaction zone of the reaction column. The reaction zone was provided with a heterogeneous platinum containing catalyst packing. A very high trichlorosilane excess was attained and the heat of reaction was used for the evaporation. The product mixture exiting the reaction column was almost entirely free of allyl chloride starting material. Lower concentrations of allyl chloride showed in the final product streams indicating that the starting material was completely reacted in the reaction column.

AN.S DCR-140

CN.P PLATINUM

SDCN R03247



L135 ANSWER 42 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 2002-685555 [74] WPIX  
 DOC. NO. CPI: C2002-194183 [74]  
 TITLE: Preparation of fluoro-containing organosilicon compound, useful as surface treating agent, comprises reacting fluoro-containing olefin with trichlorosilane using a platinum catalyst treated with dimethylchlorosilane  
 DERWENT CLASS: E11; G02  
 INVENTOR: KUBOTA T; TONOMURA Y  
 PATENT ASSIGNEE: (SHIE-C) SHINETSU CHEM IND CO LTD  
 COUNTRY COUNT: 1

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 2002205995	A	20020723	(200274)*	JA	4[0]	
JP 3861973	B2	20061227	(200703)	JA	6	

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2002205995 A		<u>JP 2001-1004</u>	<u>20010109</u>
JP 3861973 B2		<u>JP 2001-1004</u>	<u>20010109</u>

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 3861973	B2 Previous Publ	JP 2002205995 A

PRIORITY APPLN. INFO: JP 2001-1004 20010109

## INT. PATENT CLASSIF.:

IPC ORIGINAL: C07F0007-00 [I,C]; C07F0007-12 [I,A]  
 IPC RECLASSIF.: C07B0061-00 [I,A]; C07B0061-00 [I,C]; C07F0007-00 [I,C];  
 C07F0007-12 [I,A]

## BASIC ABSTRACT:

JP 2002205995 A UPAB: 20050527

NOVELTY - Preparation of a fluoro-containing organosilicon compound (2) comprises reacting a fluoro -containing olefin (1) with trichlorosilane in the presence of a divalent or tetravalent platinum catalyst treated with dimethylchlorosilane.

DETAILED DESCRIPTION - Preparation of a fluoro -containing organosilicon compound of formula (2) comprises reacting a fluoro-containing olefin of formula (1) with trichlorosilane in the presence of a divalent or tetravalent platinum catalyst treated with dimethylchlorosilane.

CF<sub>3</sub>(CF<sub>2</sub>)<sub>n</sub>CH=CH<sub>2</sub> (1)CF<sub>3</sub>(CF<sub>2</sub>)<sub>n</sub>CH<sub>2</sub>CH<sub>2</sub>SiCl<sub>3</sub> (2)

n = 3-9.

USE - (2) is used as a surface treating agent for materials.

ADVANTAGE - (2) with a high yield can be safely and efficiently prepared in a relatively short time on an industrial scale. MANUAL CODE:

CPI: E05-E02D; E11-F; G02-A05; N02-F; N05-E01;

N07-D

ABEX EXAMPLE - A mixture of 3,3,4,4,5,5,6,6,6-nonafluorohexene (246.1 g, 1.0

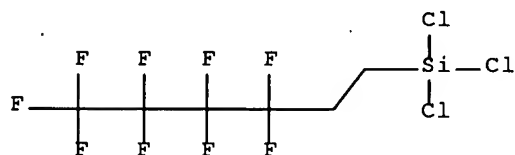
10/583,553

mol) and 20 wt.% chloroplatinic acid isopropanol solution (0.10 g) at 50 degrees C was added with dimethylchlorosilane (0.95 g, 0.01 mol) and added dropwise with trichlorosilane (149.1 g, 1.1 mol) over 5 hours. The mixture was stirred at 70 degrees C for 2 hours and distilled to give 3,3,4,4,5,5,6,6,6-nonafluorohexyltrichlorosilane (358.1 g, 93.9 % yield) as a fraction having a boiling point of 98-100 degrees C/13 kPa.

AN.S DCR-335815

CN.S Trichloro-(3,3,4,4,5,5,6,6,6-nonafluoro-hexyl)-silane

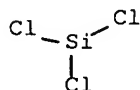
SDCN RA2SW4



AN.S DCR-356

CN.P TRICHLOROSILANE

SDCN R03423

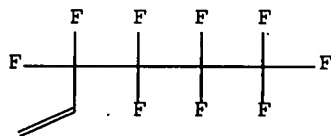


AN.S DCR-134937

CN.P PER-FLUOROBUTYLETHYLENE

CN.S 3,3,4,4,5,5,6,6,6-Nonafluoro-hex-1-ene

SDCN R21880



AN.S DCR-129547

CN.P PLATINIC CHLORIDE

SDCN R01998

SDRN 1998

CM 1

Cl

CM 2

Pt

CM 3

Cl

L135 ANSWER 43 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 2003-231952 [23] WPIX  
 DOC. NO. CPI: C2003-059771 [23]  
 TITLE: Preparation of organosilicon compound used as coupling agent, starting material and additive comprises hydrosilylation reaction between unsaturated compounds and silane compounds in presence of platinum and auxiliary catalyst  
 DERWENT CLASS: A41; A60; E11  
 INVENTOR: TACHIKAWA M; TACHIKAWA M D C A L; TAKEI K; TAKEI K D C A L  
 PATENT ASSIGNEE: (DOWO-C) DOW CORNING ASIA LTD  
 COUNTRY COUNT: 25

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC	
EP 1266903	A1	20021218	(200323)*	EN	19[0]		<--
EP 1266903	B1	20040929	(200464)	EN			<--
DE 60105986	E	20041104	(200474)	DE			<--
DE 60105986	T2	20051006	(200566)	DE			

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 1266903 A1		<u>EP 2001-305206 20010615</u>	
DE 60105986 E		<u>DE 2001-60105986 20010615</u>	
DE 60105986 T2		<u>DE 2001-60105986 20010615</u>	
DE 60105986 E		<u>EP 2001-305206 20010615</u>	
DE 60105986 T2		<u>EP 2001-305206 20010615</u>	

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 60105986 E	Based on	EP 1266903 A
DE 60105986 T2	Based on	EP 1266903 A

PRIORITY APPLN. INFO: EP 2001-305206 20010615

INT. PATENT CLASSIF.:

MAIN: C07F007-14

SECONDARY: C07F007-18

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-14 [I,A]

BASIC ABSTRACT:

EP 1266903 A1 UPAB: 20060119

NOVELTY - An organosilicon compound is prepared by effecting a hydrosilylation reaction between unsaturated compounds with unsaturated

groups, and silane compounds in the presence of a platinum catalyst and an auxiliary catalyst.

DETAILED DESCRIPTION - Preparation of an organosilicon compound includes effecting a hydrosilylation reaction between unsaturated compounds with unsaturated groups, and silane compounds of formula  $\text{HSiR}_0\text{mW}_3\text{-m}$  in the presence of a platinum catalyst and an auxiliary catalyst. The auxiliary catalyst is silyl esters of acids derived from oxo acids of sulfur; amide compounds having nitrogen-silicon (N-Si) bonds; urea compounds; silyl esters of carbamic acid; phosphoric acid compounds; and cyclic compounds from hydroxypyridine compounds of formula (i), 8-hydroxyquinoline compounds of formula (ii), oxazolidinone compounds of formula (iii), or N-hydroxysuccinimide compounds of formula (iv).

W = 1-6C alkoxy, 6-10C aryloxy, or halo;

R0 = organic group;

m = 0, 1, or 2;

R9-R14 = H, halo, 1-10C alkyl, 6-10C aryl, 1-10C alkoxy, or  $\text{R}_2\text{Si-}$ ;

R2 = 1-10C hydrocarbon, 1-10C alkoxy, Cl, or H with a maximum of two hydrogen atoms present; and

X = H or  $\text{R}_2\text{Si-}$ .

USE - The inventive method is for preparing an organosilicon compound. The organosilicon compound is used as a silane coupling agent, as a starting material for various silicon compounds, as an additive, and as a starting material for various organosilicon polymers.

ADVANTAGE - The inventive method satisfactorily increases the proportion of a target product over the proportion of by-products. It efficiently produces the target products (beta-hydrosilylated products) compared to conventional methods, or can preferentially (selectively) produce the product (beta-hydrosilylated product or terminal hydrosilylated product) over by-products.

MANUAL CODE:

CPI: A01-A03; A08-M01D; E05-E; E11-F; N02-F;

N05-D; N05-E01; N05-E02; N07-D

TECH

ORGANIC CHEMISTRY - Preferred Component: The auxiliary catalyst is an in situ formed auxiliary catalyst formed from a metal salt compound. It comprises 0.01-20 (preferably 0.05-10) wt.%, relative to the total weight of the unsaturated compound and the silane compound. The unsaturated compound is styrene or styrene derivative, or allyl compounds. The silane compound is trimethoxysilane, triethoxysilane, methyldimethoxysilane, dimethylmethoxysilane, methyldiethoxysilane, dimethylethoxysilane, dimethylchlorosilane, methyldichlorosilane, or trichlorosilane. The cyclic compounds are 2-hydroxypyridine, 8-hydroxyquinoline, oxazolidinone, 3-trimethylsilyl-2-oxazolidinone, or N-hydroxysuccinimide. The silyl esters of acids are of formula:  $\text{R}_1\text{S(=O)}_2\text{OSiR}_{21}$ , preferably silyl esters of alkylsulfonic acids or silyl esters of arylsulfonic acids. The amide compounds are of formula:  $\text{R}_3\text{C(=O)NR}_4\text{SiR}_{223}$ , preferably N-dialkylsilylacetamides or N-alkylsilyl-N-alkylacetamides. The urea compounds are of formula:  $\text{R}_5\text{R}_6\text{NC(=O)NR}_4\text{X}_1$ , preferably urea or N,N'-bis(trialkylsilyl)ureas. The silyl esters of carbamic acid are of formula:  $\text{R}_7\text{R}_8\text{NC(=O)OSiR}_{243}$ , preferably trialkylsilyl-N,N-dialkylcarbamate. The phosphoric acid compounds are of formula:  $(\text{R}_1\text{R}_2)_3\text{P(=O)}$ , preferably trialkyl phosphate. R1 = 1-10C alkyl, 6-18C aryl, or  $\text{R}_1\text{R}_2\text{N-}$ ; R18 = 1-10C alkyl, 6-18C aryl, H with a one H atom present, 1-10C haloalkyl, 6-18C haloaryl, halo, 1-10C alkoxy, or siloxy of formula:  $\text{R}_3\text{OSiO-}$ ; R30 = 1-6C alkyl; R21 = 1-10C hydrocarbon, 1-10C alkoxy, Cl, H with a maximum of two H atoms present, or  $\text{R}_1\text{S(=O)}_2\text{-}$ ; R3 = 1-10C alkyl, 6-18C aryl, 1-10C haloalkyl, 6-18C haloaryl; R4 = 1-10C hydrocarbon, or H; R22 = 1-10C hydrocarbon, 1-10C alkoxy, Cl, H with a maximum of

two H atoms present, or  $R_3C(=O)NR_4$ ;  
 $R_5, R_6 = H, 1-10C$  haloalkyl,  $6-18C$  haloaryl, or silyl of formula  $R_3Si-$ ;  
 $R = 1-3C$  alkyl, or H with a maximum of two H atoms present;  
 $X_1 = H, R_2R_3Si-$ ;  
 $R_{23} = 1-10C$  hydrocarbon,  $1-10C$  alkoxy, C1, H with a maximum of two H atoms present, or  $R_5R_6NC(=O)-$ ;  
 $R_7, R_8 = 1-10C$  alkyl,  $6-18C$  aryl, or H with a maximum of one H atom present;  
 $R_{24} = 1-10C$  hydrocarbon,  $1-10C$  alkoxy, C1, H with a maximum of two H atoms present, or  $R_7R_8NC(=O)-$ ;  
 $R_{16} = H$  with a maximum of two H atoms present,  $1-10C$  alkyl,  $6-18C$  aryl,  $1-10C$  haloalkyl,  $6-18C$  haloaryl, or a maximum of two silyl groups of formula  $R_{25}Si-$ ;  
 $R_{25} = 1-10C$  hydrocarbon,  $1-10C$  alkoxy, C1, H atoms with a maximum of two H atoms present, or  $(R_{15}O)_2P(=O)O-$ ; and  
 $R_{15} = H$  with a maximum of two H atoms present,  $1-10C$  alkyl,  $6-18C$  aryl,  $1-10C$  haloalkyl, or  $6-18C$  haloaryl.

ABEX EXAMPLE - Reaction between styrene and triethoxysilane with platinum catalyst in the presence of trimethylsilyl methanesulfonate, styrene ((356 mg) and triethoxysilane (562 mg) were introduced into a glass tube. Trimethylsilylmethanesulfonate  $((CH_3)_3SiOSO_2CH_3)$  was added using a microsyringe. Toluene solution (0.005 ml (4.3 mg)) of an O-valent platinum complex of divinyltetramethyldisiloxane (0.04 wt.% platinum content) was added. The tube was sealed with Teflon (RTM: polytetrafluoroethylene) tape and a rubber septum, and placed in 80degreesC oil bath and heated for 2 hours. After cooling, the tube contents were analyzed by gas chromatography, revealing a styrene conversion of 10% and a hydrosilylated product yield of 9.5%. The ratio between the terminal hydrosilylated product (phenethyltriethoxysilane) and the interior hydrosilylated product (alpha(triethoxysilyl)ethylbenzene) was 53:1.

AN.S DCR-200553

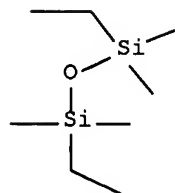
CN.S 1,1,3,3-Tetramethyl-1,3-divinyl-disiloxane platinum (O);  
 PLATINUM-1,3-DIVINYL-1,1,3,3-TETRAMETHYLDISILOXANE COMPLEX

SDCN RA00AL

CM 1

Pt

CM 2



DOC. NO. CPI: C2000-152152 [46]  
 DOC. NO. NON-CPI: N2000-375143 [46]  
 TITLE: Production of organosilicon compounds containing approximatelya, approximatelyb-unsaturated carboxylic acid groups comprises reaction of an Si-H containing organosilicon compound with an olefinically unsaturated compound.  
 DERWENT CLASS: A26; A41; E11; G02; L03; P81; U11  
 INVENTOR: HABERLE N; HAEBERLE N; HANELT E; SANDMEYER F; SCHINDLER W  
 PATENT ASSIGNEE: (CONE-C) CONSORTIUM ELEKTROCHEM IND GMBH  
 COUNTRY COUNT: 29

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC	
EP 1024143	A2	20000802	(200046)*	DE	18[0]		<--
DE 19903333	A1	20000810	(200046)	DE			<--
CA 2297224	A1	20000728	(200051)	EN			<--
CZ 2000000334	A3	20000913	(200054)	CS			<--
JP 2000229985	A	20000822	(200055)	JA	16		<--
KR 2000053626	A	20000825	(200121)	KO			<--
EP 1024143	B1	20020109	(200211)	DE			<--
DE 59900739	G	20020228	(200216)	DE			<--
ES 2170569	T3	20020801	(200263)	ES			<--
US 6486338	B1	20021126	(200281)	EN			<--
JP 3447642	B2	20030916	(200362)	JA	16		<--
CA 2297224	C	20040406	(200425)	EN			<--

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 1024143	A2	EP 1999-125908	19991223
DE 19903333	A1	DE 1999-19903333	19990128
DE 59900739	G	DE 1999-59900739	19991223
DE 59900739	G	EP 1999-125908	19991223
ES 2170569	T3	EP 1999-125908	19991223
JP 2000229985	A	JP 2000-16143	20000125
JP 3447642	B2	JP 2000-16143	20000125
US 6486338	B1	US 2000-491034	20000125
CA 2297224	A1	CA 2000-2297224	20000126
CA 2297224	C	CA 2000-2297224	20000126
KR 2000053626	A	KR 2000-3700	20000126
CZ 2000000334	A3	CZ 2000-334	20000128

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 59900739	Based on	EP 1024143 A
ES 2170569	Based on	EP 1024143 A
JP 3447642	Previous Publ	JP 2000229985 A

PRIORITY APPLN. INFO: DE 1999-19903333 19990128

INT. PATENT CLASSIF.:

MAIN: C07F007-08  
 SECONDARY: C07F007-18; C07F007-21; C08F299-00; C08G077-38  
 IPC RECLASSIF.: B01J0027-06 [I,C]; B01J0027-10 [I,A]; C07B0061-00 [I,A];  
 C07B0061-00 [I,C]; C07F0007-00 [I,C]; C07F0007-08 [I,A];

**C07F0007-14** [I,A]; C07H0023-00 [I,A]; C07H0023-00  
[I,C]; C08G0077-00 [I,C]; C08G0077-04 [I,A]; C09F0007-00  
[I,C]; C09F0007-02 [I,A]; C09F0007-12 [I,A]; C09K0019-40  
[I,A]; C09K0019-40 [I,C]

## BASIC ABSTRACT:

EP 1024143 A2 UPAB: 20050705

**NOVELTY** - Process for the production of organosilicon compounds that contain alpha,beta-unsaturated carboxylic acid group comprises reaction of an organosilicon compound containing Si-H bonds, with an olefinically unsaturated compound in the presence of a platinum catalyst followed by elimination.

**DETAILED DESCRIPTION** - A process for the production of organosilicon compounds (I), that contain alpha,beta-unsaturated carboxylic acid groups of formula (1), comprises (A) reaction of an organosilicon compound (II), that contains Si atoms directly bonded to H atoms, with an olefinically unsaturated compound, that contains terminal double or triple bonds of formula (2) in the presence of a platinum metal or compound catalyst to form an organosilicon compound (III) that contains groups of formula (3) and (B) elimination of H-Z from the organosilicon compound (III).

**INDEPENDENT CLAIMS** are included for:

- (i) a composition (IV) containing the organosilicon compound (I)
- (ii) a polymer prepared from the organosilicon compound (I) or the composition (IV); and
- (iii) an optically anisotropic layers prepared by orientation and polymerization of the organosilicon compound (I) or the composition (IV).

-A-O-C(O)-CR=CH<sub>2</sub> (1)

OMEGA-O-C(O)-CRH-CH<sub>2</sub>Z (2)

-A-O-C(O)-CRH-CH<sub>2</sub>Z (3)

A = a divalent organic group;

OMEGA = a monovalent organic group having a terminal double or triple bond;

R = H or methyl;

Z = Cl, I, Br or 4-methyltoluene sulfonyl

**USE** - The process is useful for the production of organosilicon compounds containing alpha,beta-unsaturated carboxylic acid groups.

**ADVANTAGE** - The process has a high selectivity. **MANUAL CODE:**

CPI: A01-A03; A06-A00E4; A10-E01; A12-L03B; E05-E;

G02-A05; L03-D01D1; N02-F

EPI: U11-A01F

Member(0001)

ABEQ DE 19903333 A1 UPAB 20050705

**NOVELTY** - Process for the production of organosilicon compounds that contain alpha,beta-unsaturated carboxylic acid group comprises reaction of an organosilicon compound containing Si-H bonds, with an olefinically unsaturated compound in the presence of a platinum catalyst followed by elimination.

**DETAILED DESCRIPTION** - A process for the production of organosilicon compounds (I), that contain alpha,beta-unsaturated carboxylic acid groups of formula (1), comprises (A) reaction of an organosilicon compound (II), that contains Si atoms directly bonded to H atoms, with an olefinically unsaturated compound, that contains terminal double or triple bonds of formula (2) in the presence of a platinum metal or compound catalyst to form an organosilicon compound (III) that contains groups of formula (3) and (B) elimination of H-Z from the organosilicon compound (III).

**INDEPENDENT CLAIMS** are included for:

- (i) a composition (IV) containing the organosilicon compound (I)
- (ii) a polymer prepared from the organosilicon compound (I) or the composition (IV); and
- (iii) an optically anisotropic layers prepared by orientation and

polymerization of the organosilicon compound (I) or the composition (IV).

-A-O-C(O)-CR=CH<sub>2</sub> (1)

OMEGA-O-C(O)-CRH-CH<sub>2</sub>Z (2)

-A-O-C(O)-CRH-CH<sub>2</sub>Z (3)

A = a divalent organic group;

OMEGA = a monovalent organic group having a terminal double or triple bond;

R = H or methyl;

Z = Cl, I, Br or 4-methyltoluene sulfonyl

USE - The process is useful for the production of organosilicon compounds containing alpha,beta-unsaturated carboxylic acid groups.

ADVANTAGE - The process has a high selectivity.

Member(0005)

ABEQ JP 2000229985 A UPAB 20050705

NOVELTY - Process for the production of organosilicon compounds that contain alpha,beta-unsaturated carboxylic acid group comprises reaction of an organosilicon compound containing Si-H bonds, with an olefinically unsaturated compound in the presence of a platinum catalyst followed by elimination.

DETAILED DESCRIPTION - A process for the production of organosilicon compounds (I), that contain alpha,beta-unsaturated carboxylic acid groups of formula (1), comprises (A) reaction of an organosilicon compound (II), that contains Si atoms directly bonded to H atoms, with an olefinically unsaturated compound, that contains terminal double or triple bonds of formula (2) in the presence of a platinum metal or compound catalyst to form an organosilicon compound (III) that contains groups of formula (3) and (B) elimination of H-Z from the organosilicon compound (III).

INDEPENDENT CLAIMS are included for:

(i) a composition (IV) containing the organosilicon compound (I)

(ii) a polymer prepared from the organosilicon compound (I) or the composition (IV); and

(iii) an optically anisotropic layers prepared by orientation and polymerization of the organosilicon compound (I) or the composition (IV).

-A-O-C(O)-CR=CH<sub>2</sub> (1)

OMEGA-O-C(O)-CRH-CH<sub>2</sub>Z (2)

-A-O-C(O)-CRH-CH<sub>2</sub>Z (3)

A = a divalent organic group;

OMEGA = a monovalent organic group having a terminal double or triple bond;

R = H or methyl;

Z = Cl, I, Br or 4-methyltoluene sulfonyl

USE - The process is useful for the production of organosilicon compounds containing alpha,beta-unsaturated carboxylic acid groups.

ADVANTAGE - The process has a high selectivity.

TECH

POLYMERS - Preferred Process: H-Z is eliminated in step (B) by means of a base. The organosiloxane (II) is prepared from at least units of formula (4) and is of formula (5). OMEGA is preferably R<sub>3</sub>-Ao where R<sub>3</sub> is CH<sub>2</sub>=CH-(CH<sub>2</sub>)<sub>n</sub> or HCC-(CH<sub>2</sub>)<sub>n</sub> where n=0-8 and optionally non-neighboring are replaced by O, dimethyl silyl, 1-4-substituted phenylene or cyclohexylene and Ao is a chemical bond or (CRH)<sub>m</sub>- where m=0-12 and R is H or methyl and non-neighboring methylene groups are replaced by O, dimethyl silyl, 1-4-substituted phenylene or cyclohexylene. The organosiloxane (I) is prepared by hydrosilylation of mesogenic compounds with the organosilicon compound (II). The mesogenic compounds are of formula (6) or (7). (HpR<sub>1</sub>qSiO(4-p-q)/2) (4) HsSiR<sub>2</sub>t (5) R<sub>3</sub>-X<sub>1</sub>-(A<sub>1</sub>-X<sub>2</sub>)<sub>d</sub>-R<sub>5</sub>-O-C(O)-CH(R)-CH<sub>2</sub>-Z (6) R<sub>3</sub>-X<sub>1</sub>-(A<sub>1</sub>-X<sub>2</sub>)<sub>d</sub>-R<sub>5</sub>-A<sub>2</sub> (7)

R<sub>1</sub>,R<sub>2</sub> = 1-10C alkyl or phenyl, optionally substituted by halogen;



p, q = 0-3;  
 p+qat most3; s,t=1-4; s+tat most4; R5= a chemical bond or (CH<sub>2</sub>)<sub>m</sub>, optionally with non-neighboring methylene groups replaced by O, dimethylsilyl, 1-4-substituted phenylene or cyclohexylene; X1=a chemical bond or -O-, -C(O)O- or -OC(O)-; X2=a chemical bond or -O-, -C(O)O- or -OC(O)-, -CH<sub>2</sub>CH<sub>2</sub>-, -CH=N-, -N=CH-, -N=N-, C(O)NH-, -NHC(O)-, -CC-, -CH=CH-, -N=N(O)- or -OC(O)-; A1=1,4-phenylene, 1,4-cyclohexylene, 2,5-pyridinylen, 2,5-pyranylen, 2,5-pyrimidinylen or 5,2-(1,3-dioxanylen), optionally substituted by CN-, F or methyl or a is a bicyclic ring, preferably 2,6-, 2,7-- or 1,4-naphthylidene; A2=H, halogen, hydroxyl, nitrile, methacryloxy, methacrylethyleneoxy, cholesteryl, doristeryl, cyclohexyl or 1-10C alkylene, optionally with non-beighboring methylene groups replaced by O or dimethylsilyl

ABEX EXAMPLE - A mixture of 3-chloropropionic acid allyl ester (37.15 g; prepared by reaction of allyl alcohol and 3-chloropropionic acid chloride, 71 % yield) and pentamethylpentacyclosiloxane (15.48 g) in toluene (200 ml) was mixed with a 1% solution of hexachloroplatinic acid (0.94 ml) at 80 degreesC for 1 hour, followed by the addition triethylamine (75.9 g) and 2,6-di-tert-butyl-4-(dimethylamino methylene)-phenol. After 8 hours triethylammonium chloride precipitate was filtered off and the solution dried to remove solvent (to less than 0.5 %) to yield an organosiloxane (39.2 g) that contained 10 % higher oligomers.

AN.S DCR-140

CN.P PLATINUM

SDCN R03247

AN.S DCR-132606

CN.P PLATINUM(IV)-ION

SDCN R12939

AN.S DCR-2194

CN.P PLATINIC CHLORIDE

SDCN R01998; RA0B7E

SDRN 1998

CM 1

Cl

CM 2

Pt

CM 3

Cl

L135 ANSWER 45 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1996-475726 [47] WPIX  
 DOC. NO. CPI: C1996-148567 [47]  
 TITLE: Catalysed hydrosilation of alkyne in  
 presence of cyclo-alkadiene - using platinum  
 halide or organo-silicon-modified  
platinum halide  
 DERWENT CLASS: E11  
 INVENTOR: ROY A K

PATENT ASSIGNEE: (DOWO-C) DOW CORNING CORP  
COUNTRY COUNT: 6

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 5563287	A	19961008	(199647)*	EN	4[0]	<--
EP 785202	A1	19970723	(199734)	EN	6[0]	<--
JP 09216890	A	19970819	(199743)	JA	5[0]	<--
EP 785202	B1	20010704	(200138)	EN		<--
DE 69705432	E	20010809	(200153)	DE		<--

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5563287 A		US 1996-583728	19960117
DE 69705432 E		DE 1997-69705432	19970115
EP 785202 A1		EP 1997-100532	19970115
EP 785202 B1		EP 1997-100532	19970115
DE 69705432 E		EP 1997-100532	19970115
JP 09216890 A		JP 1997-5458	19970116

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 69705432 E	Based on	EP 785202 A

PRIORITY APPLN. INFO: US 1996-583728 19960117

INT. PATENT CLASSIF.:

MAIN: C07F007-14  
IPC RECLASSIF.: B01J0027-06 [I,C]; B01J0027-13 [I,A]; C07B0061-00 [I,A];  
C07B0061-00 [I,C]; C07F0007-00 [I,C]; C07F0007-12 [I,A];  
C07F0007-14 [I,A]

## BASIC ABSTRACT:

US 5563287 A UPAB: 20050514

A process for hydrosilation of an alkyne comprises contacting at 40-150 °C an alkyne of formula  $R_1C\equiv CH$  with a hydrosilane of formula  $(R_2)_nHSiX_3-n$  in the presence of a platinum catalyst (C) and a 6-20C cycloalkadiene, in amount of 0.1-5 mol (6-20C) per g-atom of Pt in (C). (C) is selected from Pt halides and their reaction prods. with organosilicon cpds. having terminal aliphatic unsaturation.  $R_1 = H$  or 1-10C alkyl;  $R_2 = 1-20C$  alkyl or aryl;  $X = \text{halogen}$ ; and  $n = 0-3$ .

ADVANTAGE - The cycloalkadiene catalyst modifier reduces formation of the bis-silylated adduct of the alkyne. MANUAL CODE: CPI: E05-E01; E05-E02; E10-J02A2; N02-F

Member(0003)

ABEQ JP 09216890 A UPAB 20050514

A process for hydrosilation of an alkyne comprises contacting at 40-150 °C an alkyne of formula  $R_1C\equiv CH$  with a hydrosilane of formula  $(R_2)_nHSiX_3-n$  in the presence of a platinum catalyst (C) and a 6-20C cycloalkadiene, in amt. of 0.1-5 mol (6-20C) per g-atom of Pt in (C). (C) is selected from Pt halides and their reaction prods. with organosilicon cpds. having terminal aliphatic unsaturation.  $R_1 = H$  or 1-10C alkyl;  $R_2 = 1-20C$  alkyl or aryl;  $X = \text{halogen}$ ; and  $n = 0-3$ .

ADVANTAGE - The cycloalkadiene catalyst modifier reduces

formation of the bis-silylated adduct of the alkyne.

Member(0004)

ABEQ EP 785202 B1 UPAB 20050514

A process for hydrosilation of a alkyne comprises contacting at 40-150 °C an alkyne of formula  $R_1C\equiv CH$  with a hydrosilane of formula  $(R_2)_nHSiX_{3-n}$  in the presence of a platinum catalyst (C) and a 6-20C cycloalkadiene, in amt. of 0.1-5 mol (6-20C) per g-atom of Pt in (C). (C) is selected from Pt halides and their reaction prods. with organosilicon cpds. having terminal aliphatic unsaturation.  $R_1 = H$  or 1-10C alkyl;  $R_2 = 1-20C$  alkyl or aryl;  $X = \text{halogen}$ ; and  $n = 0-3$ .

ADVANTAGE - The cycloalkadiene catalyst modifier reduces formation of the bis-silylated adduct of the alkyne.

L135 ANSWER 46 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1996-401654 [40] WPIX  
 DOC. NO. CPI: C1996-126287 [40]  
 TITLE: Non-free radical hydrosilation of unsatd. monomers - by contacting a system containing silicon hydride gps., unsatd. monomer, transition metal catalyst and free radical polymerisation inhibitor.  
 DERWENT CLASS: A41; E11  
 INVENTOR: CAROTHERS T W; LEWIS L N  
 PATENT ASSIGNEE: (GENE-C) GENERAL ELECTRIC CO  
 COUNTRY COUNT: 5

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 5550272	A	19960827	(199640)*	EN	6[0]	<--
DE 19639351	A1	19970403	(199719)	DE	9[0]	<--
GB 2306166	A	19970430	(199720)	EN	19[0]	<--
FR 2739384	A1	19970404	(199722)	FR	20[0]	<--
JP 09194729	A	19970729	(199740)	JA	8[0]	<--
GB 2306166	B	19990609	(199925)	EN		<--

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5550272	A	US 1995-538149	19951002
DE 19639351	A1	DE 1996-19639351	19960925
FR 2739384	A1	FR 1996-11846	19960930
JP 09194729	A	JP 1996-257255	19960930
GB 2306166	A	GB 1996-20435	19961001
GB 2306166	B	GB 1996-20435	19961001

PRIORITY APPLN. INFO: US 1995-538149 19951002

INT. PATENT CLASSIF.:

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-14 [I,A]; C07F0007-18 [I,A]; C08G0077-00 [I,C]; C08G0077-38 [I,A]; C08K0005-00 [I,A]; C08K0005-00 [I,C]; C08L0083-00 [I,C]; C08L0083-04 [I,A]; C08L0083-05 [I,A]; C08L0083-07 [I,A]

#### BASIC ABSTRACT:

US 5550272 A UPAB: 20051007

A process for hydrosilating unsatd. monomers under non-free radical conditions comprises contacting (a) a system comprising at least one SiH gp; (b) an unsatd monomer; (c) a transition metal catalyst; and (d) a free radical polymerisation inhibitor.

USE - The hydrosilated cpds are used as functionalised precursors for incorporation into resin materials.

ADVANTAGE - The process results in a decrease in polymerisation and/or crosslinking.

MANUAL CODE: CPI: A01-A03; A01-E; A02-C; A06-A00D; A10-E; E05-G02;  
E05-M; E35-X

Member(0002)

ABEQ DE 19639351 A1 UPAB 20051007

A process for hydrosilating unsatd. monomers under non-free radical conditions comprises contacting (a) a system comprising at least one SiH gp; (b) an unsatd monomer; (c) a transition metal catalyst; and (d) a free radical polymerisation inhibitor.

USE - The hydrosilated cpds are used as functionalised precursors for incorporation into resin materials.

ADVANTAGE - The process results in a decrease in polymerisation and/or crosslinking.

Member(0004)

ABEQ FR 2739384 A1 UPAB 20051007

A process for hydrosilating unsatd. monomers under non-free radical conditions comprises contacting (a) a system comprising at least one SiH gp; (b) an unsatd monomer; (c) a transition metal catalyst; and (d) a free radical polymerisation inhibitor.

USE - The hydrosilated cpds are used as functionalised precursors for incorporation into resin materials.

ADVANTAGE - The process results in a decrease in polymerisation and/or crosslinking.

Member(0005)

ABEQ JP 09194729 A UPAB 20051007

A process for hydrosilating unsatd. monomers under non-free radical conditions comprises contacting (a) a system comprising at least one SiH gp; (b) an unsatd monomer; (c) a transition metal catalyst; and (d) a free radical polymerisation inhibitor.

USE - The hydrosilated cpds are used as functionalised precursors for incorporation into resin materials.

ADVANTAGE - The process results in a decrease in polymerisation and/or crosslinking.

Member(0006)

ABEQ GB 2306166 B UPAB 20051007

A process for hydrosilating unsatd. monomers under non-free radical conditions comprises contacting (a) a system comprising at least one SiH gp; (b) an unsatd monomer; (c) a transition metal catalyst; and (d) a free radical polymerisation inhibitor.

USE - The hydrosilated cpds are used as functionalised precursors for incorporation into resin materials.

ADVANTAGE - The process results in a decrease in polymerisation and/or crosslinking.

L135 ANSWER 47 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

ACCESSION NUMBER: 1996-097125 [10] WPIX

DOC. NO. CPI: C1996-031389 [10]

TITLE: Hydrosilation especially unsatd. reactants where unsaturation is in internal portion of reactant's

structure - comprises reaction of silicon hydride and unsatd. reactant in presence of platinum catalyst and using unsatd. alcohol(s) as an accelerator

DERWENT CLASS: E19  
INVENTOR: BANK H M; DECKER G T  
PATENT ASSIGNEE: (DOWO-C) DOW CORNING CORP  
COUNTRY COUNT: 5

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 5486637	A	19960123	(199610)*	EN	6[0]	<--
EP 738730	A2	19961023	(199647)	EN	27[0]	<--
JP 08291181	A	19961105	(199703)	JA	7[0]	<--
EP 738730	A3	19970910	(199746)	EN		<--
EP 738730	B1	20020313	(200219)	EN		<--
DE 69619719	E	20020418	(200234)	DE		<--
JP 3771316	B2	20060426	(200629)	JA	10	

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5486637	A	US 1995-425007	19950417
DE 69619719	E	DE 1996-619719	19960409
EP 738730	A2	EP 1996-302475	19960409
EP 738730	A3	EP 1996-302475	19960409
EP 738730	B1	EP 1996-302475	19960409
DE 69619719	E	EP 1996-302475	19960409
JP 08291181	A	JP 1996-95465	19960417
JP 3771316	B2	JP 1996-95465	19960417

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 69619719	E	Based on EP 738730
JP 3771316	B2	Previous Publ JP 8291181

PRIORITY APPLN. INFO: US 1995-425007 19950417

## INT. PATENT CLASSIF.:

MAIN: C07F007-14  
IPC ORIGINAL: B01J0031-16 [I,C]; B01J0031-22 [I,A]; C07F0007-00 [I,C]; C07F0007-14 [I,A]  
IPC RECLASSIF.: B01J0023-42 [I,A]; B01J0023-42 [I,C]; B01J0031-16 [I,C]; B01J0031-22 [I,A]; C07B0061-00 [I,A]; C07B0061-00 [I,C]; C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-14 [I,A]

## BASIC ABSTRACT:

US 5486637 A UPAB: 20060111

Hydrosilation comprises contacting (A) silicon hydride of formula (I) (R1)a(H)bSiX(4-a-b) and (B) an unsatd. reactant selected from (i) opt. substd. unsatd. organic cpds., and/or (ii) silicon cpds. comprising opt. substd. unsatd. organic substituents, in presence of a platinum catalyst (VI) ( platinum cpds. or platinum complexes) and an accelerator (unsatd. sec. or tert. alcohols of formula (II) and (III) or silylated unsatd. sec. or tert. alcohols of formula (IV) and (V)). In the formulae, R1 is 1-20C alkyl, 1-12 cycloalkyl or aryl; X is halo or OR1; a is 0-3; b is 1-3 and z+b is 1-4. R2 is H or 1-6C

alkyl; R3 is 1-6C alkyl; c and d are 0-3; c+d is 0-3; e and f is 1-4 and n is 0-10.

ADVANTAGE - Accelerators are useful for hydrosilation of unsatd. reactants where unsaturation is in internal portion of reactant's structure. They are moreover effective in presence or absence of oxygen. MANUAL CODE: CPI: E05-E02; E05-E03; E10-E04M1; E10-E04M2;  
N02-F; N05-C

Member(0003)

ABEQ JP 08291181 A UPAB 20060111

Hydrosilation comprises contacting (A) silicon hydride of formula (R1)a(H)bSiX(4-a-b) (I) and (B) an unsatd. reactant selected from (i) opt. substd. unsatd. organic cpds., and/or (ii) silicon cpds. comprising opt. substd. unsatd. organic substituents, in presence of a platinum catalyst (VI) (platinum cpds. or platinum complexes) and an accelerator (unsatd. sec. or tert. alcohols of formula (R2)2CCHC(R2)(R3)OH (II) and (III) or silylated unsatd. sec. or tert. alcohols of formula ((R2)2CCHC(R2)(R3)O)Si(R1)c(H)d(X)4-c-d-e (IV) and (V)). In the formulae, R1 is 1-20C alkyl, 1-12 cycloalkyl or aryl; X is halo or OR1; a is 0-3; b is 1-3 and z+b is 1-4. R2 is H or 1-6C alkyl; R3 is 1-6C alkyl; c and d are 0-3; c+d is 0-3; e and f is 1-4 and n is 0-10.

ADVANTAGE - Accelerators are useful for hydrosilation of unsatd. reactants where unsaturation is in internal portion of reactant's structure. They are moreover effective in presence or absence of oxygen.

L135 ANSWER 48 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
ACCESSION NUMBER: 1996-068311 [07] WPIX  
DOC. NO. CPI: C1996-022223 [07]  
TITLE: Hydrosilation process using alcohol or silylated alcohol accelerator - comprises reacting silicon hydride and unsatd. reactant in presence of platinum catalyst and accelerator  
DERWENT CLASS: E11  
INVENTOR: BANK H M; DECKER G T  
PATENT ASSIGNEE: (DOWO-C) DOW CORNING CORP  
COUNTRY COUNT: 5

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC	
US 5481016	A	19960102	(199607)*	EN	5[0]		<--
EP 738731	A2	19961023	(199647)	EN	5[0]		<--
JP 08333373	A	19961217	(199709)	JA	6[0]		<--
EP 738731	A3	19970910	(199746)	EN			<--
EP 738731	B1	20011128	(200201)	EN			<--
DE 69617308	E	20020110	(200211)	DE			<--
JP 3771317	B2	20060426	(200629)	JA	9		

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5481016 A		<u>US 1995-422470</u>	<u>19950417</u>
DE 69617308 E		<u>DE 1996-617308</u>	<u>19960409</u>
EP 738731 A2		<u>EP 1996-302476</u>	<u>19960409</u>
EP 738731 A3		<u>EP 1996-302476</u>	<u>19960409</u>
EP 738731 B1		<u>EP 1996-302476</u>	<u>19960409</u>
DE 69617308 E		<u>EP 1996-302476</u>	<u>19960409</u>

JP 08333373 A  
JP 3771317 B2

JP 1996-95500 19960417  
JP 1996-95500 19960417

## FILING DETAILS:

PATENT NO	KIND		PATENT NO	
DE 69617308	E	Based on	EP 738731	A
JP 3771317	B2	Previous Publ	JP 8333373	A

PRIORITY APPLN. INFO: US 1995-422470 19950417

INT. PATENT CLASSIF.:

MAIN: C07F007-14  
IPC ORIGINAL: B01J0031-16 [I,C]; B01J0031-22 [I,A]; C07F0007-00 [I,C];  
C07F0007-14 [I,A]  
IPC RECLASSIF.: B01J0023-42 [I,A]; B01J0023-42 [I,C]; B01J0027-06 [I,C];  
B01J0027-13 [I,A]; B01J0031-16 [I,C]; B01J0031-20 [I,A];  
B01J0031-22 [I,A]; B01J0031-24 [I,A]; C07B0047-00 [I,A];  
C07B0047-00 [I,C]; C07B0061-00 [I,A]; C07B0061-00 [I,C];  
C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-10 [I,A];  
C07F0007-12 [I,A]; C07F0007-14 [I,A];  
C07F0007-18 [I,A]

## BASIC ABSTRACT:

US 5481016 A UPAB: 20060111

A hydrosilation process comprises contacting (a) a silicon hydride of formula (R1)aHbSiX4-a-b (I) and (b) an unsatd. reactant selected from (1) (un)substd. unsatd. organic cpds. and/or (2) Si cpd. (un)substd. unsatd. organic substituents in the presence of (c) a Pt catalyst selected from Pt cpds. and Pt complexes, and (d) an accelerator selected from tert. alcohols of formula (R2)3COH (II), silylated tert. alcohols of formula ((R2)3CO)cSi(R1)cHdX4-c-d-e (III), benzyl alcohol and silylated benzyl alcohol of formula ((C6H5)CH2O)fSi(R1)cHdX4-c-d-f (IV). R1 = 1-20C alkyl, 4-12C cycloalkyl and aryl; X = halogen or OR1; R2 = 1-20C straight chain alkyl; a = 0-3, b = 1-3, and a+b = 1-4; c, d = 0-3; c+d = 0-3; e, f = 1-4.

The process is carried out with 0.1-10% stoichiometric excess of silicon hydride in respect to unsatd. carbon-carbon linkages of the unsatd. reactant. The concentration of Pt catalyst provides 1-1000 moles of Pt per 1x10<sup>6</sup> moles of unsatd. carbon-carbon bonds provided by the unsatd. reactant. The concentration of the accelerator is 0.01-20 (pref. 0.1-10)weight% of the unsatd. reactant. The reaction is carried out at 15-170 (pref. 30-150)°C.

USE - The accelerator is partic. useful for the hydrosilation of unsatd. reactants where the unsaturation is in the internal portion of the reactants structure e.g. cyclopentene and cyclohex.

ADVANTAGE - The accelerators are effective in the presence of absence of oxygen.

MANUAL CODE: CPI: E05-E01; E05-E02; N02-F

Member(0003)

ABEQ JP 08333373 A UPAB 20060111

A hydrosilation process comprises contacting (a) a silicon hydride of formula (R1)aHbSiX4-a-b (I) and (b) an unsatd. reactant selected from (1) (un)substd. unsatd. organic cpds. and/or (2) Si cpd. (un)substd. unsatd. organic substituents in the presence of (c) a Pt catalyst selected from Pt cpds. and Pt complexes, and (d) an accelerator selected from tert. alcohols of formula (R2)3COH (II), silylated tert. alcohols of formula ((R2)3CO)cSi(R1)cHdX4-c-d-e (III), benzyl alcohol and silylated benzyl alcohol of formula ((C6H5)CH2O)fSi(R1)cHdX4-c-d-f (IV). R1 = 1-20C alkyl, 4-12C cycloalkyl and aryl; X = halogen or OR1; R2 = 1-20C straight chain alkyl; a = 0-3, b = 1-3, and a+b = 1-4; c, d = 0-3; c+d =

0-3; e,  $\underline{f}$  = 1-4.

The process is carried out with 0.1-10% stoichiometric excess of silicon hydride in respect to unsatd. carbon-carbon linkages of the unsatd. reactant. The concn. of Pt catalyst provides 1-1000 moles of Pt per  $1 \times 10^6$  moles of unsatd. carbon-carbon bonds provided by the unsatd. reactant. The concn. of the accelerator is 0.01-20 (pref. 0.1-10)wt.% of the unsatd. reactant. The reaction is carried out at 15-170 (pref. 30-150)°C.

USE - The accelerator is partic. useful for the hydrosilation of unsatd. reactants where the unsaturation is in the internal portion of the reactants structure e.g. cyclopentene and cyclohex.

ADVANTAGE - The accelerators are effective in the presence of absence of oxygen.

L135 ANSWER 49 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1996-339179 [34] WPIX  
 DOC. NO. CPI: C1996-107411 [34]  
 TITLE: Organo:silicon cpd. preparation useful as surface treating agent - by additionally reacting di:siloxane with silane cpd. in presence of hydro-silylating catalyst  
 DERWENT CLASS: A60; E11; G02  
 INVENTOR: KOBAYASHI H; MASATOMI T  
 PATENT ASSIGNEE: (DOWO-C) DOW CORNING TORAY SILICONE  
 COUNTRY COUNT: 1

# PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 08157483	A	19960618	(199634)*	JA	7[3]	<--

# APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 08157483	A	<u>JP 1994-321410</u>	<u>19941130</u>

PRIORITY APPLN. INFO: JP 1994-321410 19941130

INT. PATENT CLASSIF.:

IPC RECLASSIF.: B01J0027-06 [I,C]; B01J0027-13 [I,A]; B01J0031-16 [I,C]; B01J0031-22 [I,A]; C07B0061-00 [I,A]; C07B0061-00 [I,C]; C07F0007-00 [I,C]; C07F0007-12 [I,A]; C07F0007-14 [I,A]; C07F0007-18 [I,A]

# BASIC ABSTRACT:

JP 08157483 A UPAB: 20050512

An organosilicon cpd. of formula  $R_1(R_2)_2Si-O-(R_2)_2Si-R_3-SiR_2(3-m)X_m$  (I) is new.  $R_1$  = alkyl, aryl,  $\underline{F}$ -containing alkyl or  $\underline{F}$ -containing alkyloxyalkyl;  $R_2$  = alkyl or aryl;  $R_3$  = alkylene or alkyleneoxyalkylene;  $X$  = halogen or alkoxy; and  $m$  = 1-3.

Also claimed is preparation of cpd. (I) which comprises additionally reacting (A) disiloxane of formula  $R_1(R_2)_2Si-O-(R_2)_2Si-R_4$  (II) with a silane cpd. of formula  $HSiR_2(3-m)X_m$  (III) in the presence of (C) a hydrosilylating catalyst or which comprises additionally reacting (A') disiloxane of formula  $R_1(R_2)_2Si-O-(R_2)_2Si-H$  (II') with (B') organosilane cpd. of formula  $R_4-SiR_2(3-m)X_m$  (III') in the presence of (C).  $R_4$  = alkenyl or alkenyloxyalkyl.

USE - The organic silicone cpd. is suitable as a surface treating agent for making the surface of glass, metal or powder hydrophobic or as a reactive additives for organic resin or coatings.



ADVANTAGE - The organic silicone cpd. has siloxane bond and silalkylene bond.

MANUAL CODE: CPI: A08-M01D; E05-E01; E05-E02B; G02-A05; N02-E04

L135 ANSWER 50 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

ACCESSION NUMBER: 1996-112710 [12] WPIX

DOC. NO. CPI: C1996-035406 [12]

TITLE: Bis-di:chloro organo silyl alkane  
derivs. for organic silicone polymer - prepared by  
hydrogen-silicon reacting di:chloro  
silyl methane derivative and olefin\* in presence of  
catalyst e.g. platinum, nickel or  
copper

DERWENT CLASS: A41; E11

INVENTOR: JUNG I; JUNG I N; LEE B; LEE B W; SUK M

PATENT ASSIGNEE: (KOAD-C) KOREA ADV INST SCI & TECHNOLOGY; (KOAD-C) KOREA  
INST SCI & TECHNOLOGY; (KORE-N) KOREA RES INST CHEM  
TECHNOLOGY

COUNTRY COUNT: 3

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC	
JP 08012682	A	19960116	(199612)*	JA	15[0]		<--
US 5527934	A	19960618	(199630)	EN	14[0]		<--
JP 2823807	B2	19981111	(199850)	JA	16		<--
KR 142142	B1	19980701	(200017)	KO			<--

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 08012682 A		<u>JP 1995-4598</u>	<u>19950117</u>
KR 142142 B1		<u>KR 1994-14634</u>	<u>19940624</u>
JP 2823807 B2		<u>JP 1995-4598</u>	<u>19950117</u>
US 5527934 A		<u>US 1995-493453</u>	<u>19950623</u>

#### FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 2823807 B2	Previous Publ	JP 08012682 A

PRIORITY APPLN. INFO: KR 1994-14634 19940624

INT. PATENT CLASSIF.:

MAIN: C07F007-12

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-12 [I,A]; C07F0007-14  
[I,A]

#### BASIC ABSTRACT:

JP 08012682 A UPAB: 20050511

Bis(dichloro organosilyl) alkane derivs. of formula (1) are new:

Si(R1)Cl2-A-Si(Cl2)(R2) (1)

R1, R2 = -(CH2)2R3

(R3 = alkyl, aryl, silyl, cyclohexenyl, or cyano), or -CH2-CH(CH3)-Ph-X  
(X = H, alkyl, phenyl or halogen atoms)

(R1= R2), or

R1 = alkyl or -(CH2)2R3, and

R2 = -CH2-CH(CH3)-Ph-X; and

A = alkylene, allylene or aralkylene.

USE - The cpds. (1) are used as starting material of organic silicon polymers.

MANUAL CODE: CPI: A01-A03; E05-E01; E05-E02B

Member(0003)

ABEQ JP 2823807 B2 UPAB 20050511

Bis(dichloro organosilyl) alkane derivs. of formula  
(1) are new:

Si(R1)Cl2-A-Si(Cl2)(R2) (1)

R1, R2 = -(CH2)2R3

(R3 = alkyl, aryl, silyl, cyclohexenyl, or cyano), or -CH2-CH(CH3)-Ph-X

(X = H, alkyl, phenyl or halogen atoms)

(R1= R2), or

R1 = alkyl or -(CH2)2R3, and

R2 = -CH2-CH(CH3)-Ph-X; and

A = alkylene, allylene or aralkylene.

USE - The cpds. (1) are used as starting material of organic silicon polymers.

L135 ANSWER 51 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

ACCESSION NUMBER: 1995-042786 [06] WPIX

DOC. NO. CPI: C1995-019474 [06]

TITLE: Maintenance of catalytic activity in  
hydrosilylation reaction - in which a peroxide  
is added to the reaction between a silicon  
hydride with unsatd. organic or silicon cpd. in  
presence of platinum catalyst

DERWENT CLASS: C02; E11; E19

INVENTOR: BANK H M

PATENT ASSIGNEE: (DOWO-C) DOW CORNING CORP

COUNTRY COUNT: 5

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 5359113	A	19941025	(199506)*	EN	7[0]	<--
EP 652222	A1	19950510	(199523)	EN		<--
JP 07207159	A	19950808	(199540)	JA	8[0]	<--
EP 652222	B1	20000112	(200008)	EN		<--
DE 69422589	E	20000217	(200016)	DE		<--

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5359113 A		<u>US 1993-148944</u>	<u>19931108</u>
DE 69422589 E		<u>DE 1994-69422589</u>	<u>19941102</u>
EP 652222 A1		<u>EP 1994-308061</u>	<u>19941102</u>
EP 652222 B1		<u>EP 1994-308061</u>	<u>19941102</u>
DE 69422589 E		<u>EP 1994-308061</u>	<u>19941102</u>
JP 07207159 A		<u>JP 1994-269891</u>	<u>19941102</u>

#### FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 69422589 E	Based on	EP 652222 A

PRIORITY APPLN. INFO: US 1993-148944 19931108

## INT. PATENT CLASSIF.:

MAIN: **C07F007-14**  
 SECONDARY: C07F007-21; C08G077-382  
 IPC RECLASSIF.: B01J0023-42 [I,A]; B01J0023-42 [I,C]; B01J0027-06 [I,C];  
 B01J0027-13 [I,A]; B01J0031-16 [I,A]; B01J0031-16 [I,C];  
 C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-12 [I,A];  
**C07F0007-14** [I,A]; C07F0007-16 [I,A]; C07F0007-18  
 [I,A]; C08K0005-00 [I,C]; C08K0005-14 [I,A]; C08L0083-00  
 [I,C]; C08L0083-04 [I,A]

## BASIC ABSTRACT:

US 5359113 A UPAB: 20050824

Maintenance of catalytic activity during a hydrosilylation reaction of (A) a silicon hydride with (B) unsatd. cpds. selected from (i) opt. substd. unsatd. organic cpds. and their mixts.; (ii) opt. substd. unsatd. Si cpds. or their mixts.; and (iii) mixts. of (i) and (ii); in the presence of (C) a hydrosilylation catalyst selected from (a) Pt metal on a support; (b) Pt cpds., and (c) Pt complexes; is effected by adding a peroxide to the reaction mixture

The silicon hydrides are selected from  $RxSiH_4-x$ ,  $RyHuSiX_4-y-u$ ,  $Rz(R'O)4-z-wSiHw$ , or cpd. chosen from formulae (IV)-(VII). In the formulae, R = opt. substd. 1-30C alkyl, opt. substd. at least 4C cycloalkyl, and opt. substd. 6-16C aryl; R' = 1-6C alkyl; R'' = -H or as R, provided that at least one R'' in each molecule is -H; X = halide; p and q each = at least 1, provided that  $p+q = 3-8$ ; r = 3-8; s and t each = 1 or greater; u = 1, 2 or 3, provided that u+y is less than or equal to 3; v = 0 or an integer of 1 or greater; w = 1-3; x = 1-3; y = 0-2; and z = 0-2, provided that w+z is less than or equal to 3;

ADVANTAGE - The catalytic activity of the reaction is maintained until one or both of the reactants are consumed. MANUAL CODE: CPI: C05-B01B; E05-E01; E05-E02; E10-A04B; **N02-F**

Member(0004)

ABEQ EP 652222 B1 UPAB 20050824

Maintenance of catalytic activity during a hydrosilylation reaction of (A) a silicon hydride with (B) unsatd. cpds. selected from (i) opt. substd. unsatd. organic cpds. and their mixts.; (ii) opt. substd. unsatd. Si cpds. or their mixts.; and (iii) mixts. of (i) and (ii); in the presence of (C) a hydrosilylation catalyst selected from (a) Pt metal on a support; (b) Pt cpds., and (c) Pt complexes; is effected by adding a peroxide to the reaction mixt. The silicon hydrides are selected from  $RxSiH_4-x$ ,  $RyHuSiX_4-y-u$ ,  $Rz(R'O)4-z-wSiHw$ , or cpd. chosen from formulae (IV)-(VII). In the formulae, R = opt. substd. 1-30C alkyl, opt. substd. at least 4C cycloalkyl, and opt. substd. 6-16C aryl; R' = 1-6C alkyl; R'' = -H or as R, provided that at least one R'' in each molecule is -H; X = halide; p and q each = at least 1, provided that  $p+q = 3-8$ ; r = 3-8; s and t each = 1 or greater; u = 1, 2 or 3, provided that u+y is less than or equal to 3; v = 0 or an integer of 1 or greater; w = 1-3; x = 1-3; y = 0-2; and z = 0-2, provided that w+z is less than or equal to 3;

ADVANTAGE - The catalytic activity of the reaction is maintained until one or both of the reactants are consumed.

L135 ANSWER 52 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1994-365405 [45] WPIX  
 CROSS REFERENCE: 1993-095482; 1994-193451  
 DOC. NO. CPI: C1994-166890 [45]  
 TITLE: Method of controlling hydrosilylation in a  
 reaction mixture - by controlling the solution concentration  
 of  
 oxygen relative to any platinum in the mixture

DERWENT CLASS: E11  
 INVENTOR: DAVERN S P; HAUENSTEIN D E; KLEYER D L; NGUYEN B T;  
 SCHULZ W J  
 PATENT ASSIGNEE: (DOWO-C) DOW CORNING CORP  
 COUNTRY COUNT: 1

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 5359111	A	19941025	(199445)*	EN	24[10]	<--

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5359111	A Cont of	<u>US 1991-762672</u>	<u>19910918</u>
US 5359111	A Cont of	<u>US 1992-991072</u>	<u>19921214</u>
US 5359111	A CIP of	<u>US 1993-9169</u>	<u>19930126</u>
US 5359111	A	<u>US 1993-99783</u>	<u>19930730</u>

PRIORITY APPLN. INFO: US 1993-99783 19930730  
US 1991-762672 19910918  
US 1992-991072 19921214  
US 1993-9169 19930126

## INT. PATENT CLASSIF.:

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-14  
 [I,A]; C07F0007-18 [I,A]; C08G0077-00 [I,C]; C08G0077-38  
 [I,A]

## BASIC ABSTRACT:

US 5359111 A UPAB: 20060109

A method of controlling hydrosilylation in a reaction mixture comprises controlling the solution concentration of O<sub>2</sub> relative to any Pt in the reaction mixture. The method consists of reacting (a) a silicon hydride with (b) unsatd. cpds. in the presence of (c) a catalyst; oxygen being added to the reaction mixture in controlled amts. (a) is selected from silicon hydrides having the formulae (I), (II), (III), (IV), (V), (VI) and (VII). RxSiH<sub>4-x</sub> (I), RyHuSiX<sub>4-y-u</sub> (II), Rz(R<sub>10</sub>)<sub>4-zw</sub>SiH<sub>w</sub> (III), R<sub>11</sub>Si-O-((R<sub>11</sub>)Si(R<sub>11</sub>)-O)<sub>v</sub>-SiR<sub>11</sub> (IV), R<sub>11</sub>Si-O-((R<sub>11</sub>)Si(R<sub>11</sub>)-O)<sub>s</sub>-((R)Si(R)O)<sub>t</sub>-SiR<sub>11</sub> (V), R = (un)substd. 1-30C alkyl or substd. 6-16C aryl; R<sub>11</sub> = 1-6C alkyl; R<sub>11</sub> = R or H, provided that at least one R<sub>11</sub> in each mol. = H; X = a halide; p = at least 1; q = at least 1, provided that p+q = 3-8; r = 3-8; s = 1 or more; t = 1 or more; u = 1, 2 or 3, provided that u+y is equal to or less than 3; v = 0, 1 or more; w = 1-3; x = 1-3; y = 0-2; and z = 0-2, provided that w+z is equal to or less than 3. (b) is selected from: (i) (un)substd. unsatd. organic cpds. or mixts., (ii) (un)substd. unsatd. Si cpds. or mixts.; and (iii) mixts. of (i) and (ii). (c) is selected from: (iv) Pt metal on a support; (v) Pt cpds.; and (vi) Pt complexes.

Also claimed are the following: (1) a method of controlling hydrosilylation by reacting a silicon hydride of formula (II) with (un)substd. olefinically unsatd. alkenyl cpds. selected from 4-8C cycloalkenyl cpds., linear 2-30C alkenyl cpds., and branched 4-30C alkenyl cpds. in the presence of (c); claims (2) to (7) inclusively are methods in which the silicon hydride has the formula (I), (III), (IV), (V), (VI) or (VII) respectively, with (b) and (c) being as in (1) for each of claims (2) to (3); (8) a method for the preparation of dicycloalkylsubstd. silanes (See Claimed Method); and (9) a method of controlling isomerisation in linear/branched alkenyl cpds., having at least 4C, by introducing a controlled amount of O<sub>2</sub> into a reaction mixture during hydrosilylation which occurs as described in the main claim.

USE - The method is partic. useful for the production of dicycloalkylsubstd. silanes (claimed).

ADVANTAGE - The presence of O2 during the reaction enhances reaction parameters such as reaction rate and selectivity of addition O2 level is 1-5 weight% in combination with an inert gas. MANUAL CODE: CPI: E05-E01; E05-E02; **N02-F**; N05-B; N05-C

L135 ANSWER 53 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1988-229683 [33] WPIX  
 DOC. NO. CPI: C1988-102588 [21]  
 TITLE: Production of cycloalkyl silane cpds. - by photochemically induced hydrosilylation  
 DERWENT CLASS: A41; E11  
 INVENTOR: ENDO M; ISHIHARA T; KUBOTA T; SHINOHARA N; SHINOHARA T; TAKAMIZAWA M  
 PATENT ASSIGNEE: (SHIE-C) SHINETSU CHEM CO LTD; (SHIE-C) SHINETSU CHEM IND CO LTD  
 COUNTRY COUNT: 6

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 278863	A	19880817	(198833)*	EN	4[0]	<--
JP 63198692	A	19880817	(198839)	JA		<--
US 4883569	A	19891128	(199006)	EN	5	<--
US 4957607	A	19900918	(199040)	EN		<--
JP 03014835	B	19910227	(199112)	JA		<--
EP 278863	B1	19931208	(199349)	EN	7[0]	<--
DE 3886063	G	19940120	(199404)	DE		<--

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 278863 A		<u>EP 1988-400270</u>	<u>19880205</u>
JP 63198692 A		<u>JP 1987-30994</u>	<u>19870213</u>
JP 03014835 B		<u>JP 1987-30994</u>	<u>19870213</u>
DE 3886063 G		<u>DE 1988-3886063</u>	<u>19880205</u>
EP 278863 B1		<u>EP 1988-400270</u>	<u>19880205</u>
DE 3886063 G		<u>EP 1988-400270</u>	<u>19880205</u>
US 4883569 A		<u>US 1988-154691</u>	<u>19880211</u>
US 4957607 A		<u>US 1989-380550</u>	<u>19890717</u>

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 3886063 G	Based on	EP 278863 A

PRIORITY APPLN. INFO: JP 1987-30994 19870213

INT. PATENT CLASSIF.:

MAIN: C07F007-08  
 IPC RECLASSIF.: C07B0061-00 [I,A]; C07B0061-00 [I,C]; C07F0007-00 [I,C];  
 C07F0007-08 [I,A]; C07F0007-12 [I,A]; C07F0007-14  
 [I,A]; C07F0007-18 [I,A]

## BASIC ABSTRACT:

EP 278863 A UPAB: 20050429

The preparation of a cycloalkylsilane cpd. comprises admixing an unsatd. cyclic hydrocarbon of formula CmRlnAp (in which R1 = H, F or F-substd. or

unsubstd. 1-8C hydrocarbon group, A is a methylene or dimethylmethylene gp.,  $m = 4-8$ ,  $p = 0-1$  and  $n = 2m-2p-2$  with a hydrosilane, represented by  $HR_2qSiX_3-q$ , (in which  $R_2$  is substd. or unsubstd. hydrocarbon gp.;  $X$  = halogen or alkoxy,  $q = 0-2$ ) and a Pt. cpd. (pref. 20 ppm by weight of hydrosilane) then irradiating the reaction mixture with light (pref. UV). More specifically cyclohexyl silanes are prepared from cyclohexene by this process.

ADVANTAGE - The process improves the yields of cycloalkyl silanes given in and avoids the high production costs of the alternative industrially used Grignard method. MANUAL CODE: CPI: A01-A03; E05-E01; E05-E02; N02-F

Member(0003)

ABEQ US 4883569 A UPAB 20050429

Prepn. of cycloalkyl silane compd. comprises: (A) admixing an unsatd. cyclic hydrocarbon compd. of formula;  $CmR_1^nAp$  Where  $R_1 = H, F, F$  substd. or unsubstd. monovalent hydrocarbon grp. of 1-8C  $a =$  divalent intramolecular bridging grp. pref. methylene  $CH_2$  and dimethylene grp.  $C(CH_3)_2$   $m = 4-8$   $p = 0, 1$   $n = 2m-2p-2$  with a hydrogen silane cpd. represented by the general formula;  $HR_2gSiX_3-9$  Where  $R_2 =$  unsubstd. substd. monovalent hydrocarbon grp.  $X = Hal, alkoxy$   $g = 0, 1, 2$  and Pt. catalyst prepared by the heating chloroplatinic acid in alcohol to form mixture and (B) irradiating mixture with light to effect hydrosilylation between unsatd. cyclic hydrocarbon compd. and  $HSi$  compd.

USE/ADVANTAGE - Provides efficient method of prepn. of cycloalkyl silane compd. - (5pp)

Member(0004)

ABEQ US 4957607 A UPAB 20050429

Prepn. of a cycloalkyl silane cpd. comprises; a) admixing an unsatd. hydrocarbon of formula  $CmR_1^nAp$  (where  $R_1$  is  $H, F$  or  $F$  -substd. or unsubstd. monovalent hydrocarbon gp.; A is a divalent intramolecular bridging gp.;  $M = 4-8$ ;  $p = 0-1$ ;  $n = 2m-2p-2$ ) with hydrogen silane of formula  $HR_2qSiX_3-q$  (where  $R_2$  is opt. substd. monovalent hydrocarbon gp.;  $X$  is halogen or alkoxy gp.;  $q = 0-2$ ) and on alcoholic complex of chloroplatinic acid and b) irradiating mixt. with UV to effect hydrosilation reaction.

ADVANTAGE - Prepn. is more efficient than prior art, gives higher yields and is more economical. - (5pp)

AN.S DCR-127

CN.P POTASSIUM CHLORIDE

SDCN R01678

SDRN 1678

CM 1

Cl

CM 2

K

AN.S DCR-127

CN.P POTASSIUM CHLORIDE

SDCN R01678

SDRN 1678

CM 1

C1

CM 2

K

L135 ANSWER 54 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1988-100068 [15] WPIX  
 DOC. NO. CPI: C1988-044806 [21]  
 TITLE: Reaction of organic cpds. containing 1 double bond with  
hydrosilane(s) - in presence of amide and  
platinum catalyst  
 DERWENT CLASS: E19  
 INVENTOR: IMAI T; SUZUKI M  
 PATENT ASSIGNEE: (DOWO-C) DOW CORNING TORAY SILICONE; (TORB-C) TORAY  
 SILICONE CO LTD  
 COUNTRY COUNT: 6

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC	
EP 263673	A	19880413	(198815)*	EN	4		<--
US 4736049	A	19880405	(198816)	EN	4		<--
JP 63179883	A	19880723	(198835)	JA			<--
CA 1312617	C	19930112	(199308)	EN			<--
EP 263673	B1	19931201	(199348)	EN	6[0]		<--
DE 3788334	G	19940113	(199403)	DE			<--
JP 06033288	B2	19940502	(199416)	JA			<--

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 263673 A		<u>EP 1987-308834</u>	<u>19871006</u>
JP 63179883 A		<u>JP 1986-237591</u>	<u>19861006</u>
JP 06033288 B2		<u>JP 1986-237591</u>	<u>19861006</u>
US 4736049 A		<u>US 1987-101050</u>	<u>19870925</u>
CA 1312617 C		<u>CA 1987-548557</u>	<u>19871005</u>
DE 3788334 G		<u>DE 1987-3788334</u>	<u>19871006</u>
EP 263673 B1		<u>EP 1987-308834</u>	<u>19871006</u>
DE 3788334 G		<u>EP 1987-308834</u>	<u>19871006</u>

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 3788334 G	Based on	EP 263673 A
JP 06033288 B2	Based on	JP 63179883 A

PRIORITY APPLN. INFO: JP 1986-237591 19861006

## INT. PATENT CLASSIF.:

MAIN: C07F007-08; C07F007-12  
 IPC RECLASSIF.: B01J0023-42 [I,A]; B01J0023-42 [I,C]; B01J0031-00 [I,A];  
 B01J0031-00 [I,C]; B01J0031-02 [I,A]; B01J0031-02 [I,C];  
 B01J0031-26 [I,C]; B01J0031-28 [I,A]; C07B0061-00 [I,A];  
 C07B0061-00 [I,C]; C07F0007-00 [I,C]; C07F0007-08 [I,A];  
 C07F0007-12 [I,A]; C07F0007-14 [I,A]

## BASIC ABSTRACT:

EP 263673 A UPAB: 20050819

Addition reaction of hydrosilanes of formula (I) with organic cpds. containing one double bond in presence of Pt catalyst and an amide of formula (II).

(I) is  $R_3aSiH_4-a$ , or  $R_3cSiHdX_4-c-d$ , or  $R_3eHfSiO(4-e-f)/2$ , where  $R_3$  = monovalent hydrocarbon,  $X$  = halogen,, alkoxy, acyloxy.  $a = 1, 2$  or  $3$ ,  $c = 0, 1, 2$ , or  $3$ ,  $d = 1, 2$  or  $3$ ,  $e$  and  $f$  = between  $0$  and  $3$ .

$R$  = hydrocarbon; and  $R_1, R_2 = H$  or monovalent hydrocarbon.

Pref. Pt is on carbon, chloroplatinic acid etc. as catalyst. Reactn. takes place at  $20-200$  deg.C..

ADVANTAGE - The presence of amide (I) maximises the yield of beta adduct.

MANUAL CODE: CPI: E05-E; E10-D02; N02-F02

Member(0002)

ABEQ US 4736049 A UPAB 20050819

Prepn. of adducts of hydrogenosilane derivs. (having at least one H-Si gp.) and active (opt. substd.) alkenes comprises warming the reactants in the presence of a Pt cpd. or finely divided Pt/C as catalyst, in an opt. substd. amide solvent, e.g. N,N-dimethylacetamide, at temps.  $20-200$  C.

ADVANTAGE - The presence of these catalysts and solvents minimises the formation of the alpha-adduct and ensures improved yields of the beta-adducts, which are valuable intermediates.

Member(0007)

ABEQ JP 94033288 B2 UPAB 20050819

Addn. reaction of hydrosilanes of formula (I) with organic cpds. containing one double bond in presence of Pt catalyst and an amide of formula (II).

(I) is  $R_3aSiH_4-a$ , or  $R_3cSiHdX_4-c-d$ , or  $R_3eHfSiO(4-e-f)/2$ , where  $R_3$  = monovalent hydrocarbon,  $X$  = halogen,, alkoxy, acyloxy.  $a = 1, 2$  or  $3$ ,  $c = 0, 1, 2$ , or  $3$ ,  $d = 1, 2$  or  $3$ ,  $e$  and  $f$  = between  $0$  and  $3$ .

$R$  = hydrocarbon; and  $R_1, R_2 = H$  or monovalent hydrocarbon.

Pref. Pt is on carbon, chloroplatinic acid etc. as catalyst. Reaction takes place at  $20-200$  deg.C..

ADVANTAGE - The presence of amide (I) maximises the yield of beta adduct.

L135 ANSWER 55 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1986-278612 [42] WPIX  
 DOC. NO. CPI: C1986-120491 [21]  
 TITLE: Low temperature promoted hydrosilation of olefinic cpds. e.g. allyl acrylate - using soluble platinum catalyst and second hydrosilane as promoter  
 DERWENT CLASS: A41; E11  
 INVENTOR: SCHILLING C L  
 PATENT ASSIGNEE: (UNIC-C) UNION CARBIDE CORP  
 COUNTRY COUNT: 9

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 4614812	A	19860930	(198642)*	EN	18[0]	<--
AU 8667048	A	19870702	(198733)	EN		<--
EP 232551	A	19870819	(198733)	EN		<--
JP 62158293	A	19870714	(198733)	JA		<--



CA 1276161	C 19901113 (199051)	EN	<--
EP 232551	B1 19931118 (199346)	EN 31[0]	<--
DE 3689307	G 19931223 (199401)	DE	<--

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 4614812	A	<u>US 1985-815007</u>	<u>19851231</u>
DE 3689307	G	<u>DE 1986-3689307</u>	<u>19861230</u>
EP 232551	A	<u>EP 1986-118124</u>	<u>19861230</u>
EP 232551	B1	<u>EP 1986-118124</u>	<u>19861230</u>
DE 3689307	G	<u>EP 1986-118124</u>	<u>19861230</u>
JP 62158293	A	<u>JP 1986-315977</u>	<u>19861230</u>

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 3689307	G	Based on EP 232551 A

PRIORITY APPLN. INFO: US 1985-815007 19851231

INT. PATENT CLASSIF.:

MAIN: C07F007-08

IPC RECLASSIF.: B01J0027-00 [I,A]; B01J0027-00 [I,C]; B01J0031-00 [I,A];  
 B01J0031-00 [I,C]; C07B0061-00 [I,A]; C07B0061-00 [I,C];  
 C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-14  
 [I,A]; C07F0007-21 [I,A]

## BASIC ABSTRACT:

US 4614812 A UPAB: 20050426

In the preparation of cpds. containing Si-C bonds (I) by a hydrosilation reaction of a hydrosilyl reactant (II) with an olefinic reactant (III) in the presence of a soluble Pt catalyst (IV), the process is effected at below 150 deg.C, and a hydrosilyl promoter (V) (different from (II)) is employed to provide (a) a 20% increase in (I), or (b) a 20% increase in reaction rate (w.r.t. unpromoted reaction).

ADVANTAGE - The reaction scale may range from grams to several thousand kg. The active catalyst is generated in situ and the induction period associated with use of H2PtCl6 is eliminated. Certain (V) enable some reactions to proceed at sub-ambient temps. thus permitting use of ambient pressures. Optimum promoting effects (relative to reaction rate and selectivity) are observed when the electron environment of (V) is most nearly opposite that of (II). MANUAL CODE: CPI: A01-A03; A10-E22A; E05-E; E31-P06B; N02-F; N05-A

L135 ANSWER 56 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

ACCESSION NUMBER: 1985-209795 [34] WPIX

CROSS REFERENCE: 1985-074265

DOC. NO. CPI: C1985-091450 [21]

TITLE: Hydrosilylation of unsatd. cpds. - using catalyst comprising platinum bonded to support through mercapto gps.

DERWENT CLASS: A41; E11; J04

INVENTOR: WILLIAMS R E

PATENT ASSIGNEE: (GENE-C) GENERAL ELECTRIC CO

COUNTRY COUNT: 1

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
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 US 4533744 A 19850806 (198534)\* EN 6[0]

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## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 4533744 A		US 1983-527538	19830829
US 4533744 A		US 1984-670250	19841113

PRIORITY APPLN. INFO: US 1984-670250 19841113

INT. PATENT CLASSIF.:

IPC RECLASSIF.: B01J0023-40 [I,A]; B01J0023-40 [I,C]; B01J0031-02 [I,A];  
 B01J0031-02 [I,C]; C07F0007-00 [I,C]; C07F0007-08 [I,A];  
C07F0007-14 [I,A]; C07F0007-18 [I,A]

## BASIC ABSTRACT:

US 4533744 A UPAB: 20050423

Hydrosilylation of aliphatically unsatd. cpds. (I) is effected by reaction with a Si hydride (II) in the presence of a catalyst comprising 0.05-5 weight% Pt on a derivatised hydroxylated silica or alumina support with a surface area of 100-800 m<sup>2</sup>/g, where the support has -OSiRS- gps. and the Pt is chemically bonded to the surface of the support through Pt-S linkages (R = a divalent 2-13C organic gp.).

Specifically, (I) is 4-allyloxy-2 -hydroxybenzophenone (Ia), allyl chloride or allyl methacrylate. (II) is HSi(OEt)<sub>3</sub> or HSiCl<sub>3</sub>. Pref. the reaction is effected at 0-200 deg.C in the presence of 0.0001-1 weight% Pt.

ADVANTAGE - The catalysts are readily recovered after the reaction and may be re-used repeatedly. MANUAL CODE: CPI: A01-A03; A12-W11B; E05-E; J04-E01; N02-F

L135 ANSWER 57 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1985-074265 [12] WPIX  
 DOC. NO. CPI: C1985-032364 [21]  
 TITLE: Hydrosilylation catalyst containing platinum atoms - bonded to silica or alumina by mercapto-propyl:siloxy gps.  
 DERWENT CLASS: A26; E11; J04  
 INVENTOR: WILLIAMS R E  
 PATENT ASSIGNEE: (GENE-C) GENERAL ELECTRIC CO  
 COUNTRY COUNT: 5

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 4503160	A	19850305	(198512)*	EN	6[0]	<--
DE 3423290	A	19850314	(198512)	DE		<--
FR 2551066	A	19850301	(198514)	FR		<--
GB 2145701	A	19850403	(198514)	EN		<--
JP 60084144	A	19850513	(198525)	JA		<--
GB 2145701	B	19870603	(198722)	EN		<--
JP 63066571	B	19881221	(198903)	JA		<--

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 4503160 A		US 1983-527538	19830829
US 4503160 A		US 1984-670250	19841113
GB 2145701 A		GB 1984-10768	19840427

10/583,553

DE 3423290 A  
FR 2551066 A  
JP 60084144 A

DE 1984-3423290 19840623  
FR 1984-13060 19840822  
JP 1984-177629 19840828

PRIORITY APPLN. INFO: US 1983-527538 19830829  
US 1984-670250 19841113

INT. PATENT CLASSIF.:

IPC RECLASSIF.: B01J0023-40 [I,A]; B01J0023-40 [I,C]; B01J0031-02 [I,A];  
B01J0031-02 [I,C]; B01J0031-12 [I,A]; B01J0031-12 [I,C];  
B01J0031-26 [I,A]; B01J0031-26 [I,C]; B01J0031-28 [I,A];  
C07B0061-00 [I,A]; C07B0061-00 [I,C]; C07F0015-00 [I,A];  
C07F0015-00 [I,C]; C07F0007-00 [I,C]; C07F0007-08 [I,A];  
C07F0007-14 [I,A]; C07F0007-18 [I,A]

BASIC ABSTRACT:

US 4503160 A UPAB: 20050423

Hydrosilylation catalyst is a hydroxylated Si or Al oxide having 0.1-1 weight% chemically combined Pt. The oxide is derivatised with many gps. of formula (1) attached to the surface of the oxide by gp. (2) or gp. (3) links.

Derivatisation comprises reacting the oxide with a mercapto-organoalkoxysilane (I), and the Pt is chemically combined to the oxide surface through the Pt-S linkages. (R=2-13C divalent organic gps.).

The catalyst is produced by reacting the oxide, of surface area 100-800 sq.m./g, and (RpO)3Si-R-SH (R'=1-8C alkyl) with azeotropic removal of water and alcohol then dried. The prod. is then reacted under anhydrous conditions with Pt halide, especially H2PtCl6.6H2O (II). The silane is specifically 3-mercaptopropyl-trimethoxy silane (Ia). The catalyst is used for hydrosilylation at 0-200 deg. C using 0.0001-1 weight% Pt based on the reaction mixture. The catalyst can be reused.

USE - These catalysts are useful for silylation of olefinically or acetylenically unsatd. cpds. with organosilanes or organocyclopolsiloxanes.

MANUAL CODE: CPI: A01-A03; A12-W11B; E05-E01; E05-E02; E31-P01;  
E31-P02; E34-C01; J04-E04; N01-C; N01-D; N02-F;  
N05-E

L135 ANSWER 58 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

ACCESSION NUMBER: 1984-133882 [21] WPIX

DOC. NO. CPI: C1984-056595 [21]

TITLE: Ultrasonically accelerated hydrosilation(s) --  
used in mfg. organo:silane(s), silicone resins,  
elastomers and lubricants

DERWENT CLASS: A41; E11

INVENTOR: BOUDJOUK P R

PATENT ASSIGNEE: (UYND-N) N DAKOTA STATE UNIV

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
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US 4447633	A	19840508	(198421)*	EN	4[0]	
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APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
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US 4447633 A		<u>US 1983-504218 19830614</u>	
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PRIORITY APPLN. INFO: US 1983-504218 19830614

INT. PATENT CLASSIF.:

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-14

[I,A]; C07F0007-18 [I,A]

## BASIC ABSTRACT:

US 4447633 A UPAB: 20050421

Process comprises exposing a mixture of a cpd. containing a pi-bond and a silane of formula  $R_3-nSiH_{1+n}$  (I) having silanic hydrogen in the presence of a platinum catalyst to ultrasonic energy. In (I), R is halogen, lower alkoxy, both halogen and lower alkoxy, substd. alkoxy, lower alkyl, substd. alkyl, phenyl or mixts.;  $n = 0, 1, 2$ .

The cpd. having the pi-bond contains above 2C atoms and is an alkene, alkyne, above 4C aliphatic cpd., olefinic cpd., aromatic nucleus such as phenylacetylene.

The process is partic. useful in the formation of intermediate monomers for producing silicone resins and elastomers, in producing Si-containing oils and lubricants and in providing a practical and economic method for mfg. organosilanes, organic and inorganic Si-containing material including silicon carbide. High yields of commercially important organosilanes are obtd. with simple, efficient isolation of pure adduct hydrosilation prod. avoiding formation of partially polymerised prods., and need for solvent or diluent. The expensive catalyst is easily recovered for reuse. MANUAL CODE: CPI: A01-A03; E05-E; N02-F

L135 ANSWER 59 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1983-34907K [15] WPIX  
 DOC. NO. CPI: C1983-034087 [21]  
 TITLE: Tetra:fluoro-ethyl-oxy-alkyl silane preparation -  
 by hydrogen-silane addition to tetra:fluoro-ethyl-alkenyl ether in tubular reactor  
 DERWENT CLASS: E11  
 INVENTOR: LINDNER T; RIEDLE R; WAGNER W; ZELLER N  
 PATENT ASSIGNEE: (WACK-C) WACKER CHEM GMBH  
 COUNTRY COUNT: 6

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 75864	A	19830406	(198315)*	DE	11	<--
DE 3138236	A	19830407	(198315)	DE		<--
JP 58099425	A	19830613	(198329)	JA		<--
US 4454331	A	19840612	(198426)	EN		<--
EP 75864	B	19860108	(198603)	DE		<--
DE 3268428	G	19860220	(198609)	DE		<--

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 75864 A		<u>EP 1982-108796</u>	<u>19820923</u>
DE 3138236 A		<u>DE 1981-3138236</u>	<u>19810925</u>
DE 3268428 G		<u>DE 1981-3138236</u>	<u>19810925</u>
US 4454331 A		<u>US 1982-401785</u>	<u>19820726</u>

PRIORITY APPLN. INFO: DE 1981-3138236 19810925

INT. PATENT CLASSIF.:

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-12 [I,A]; C07F0007-14  
 [I,A]

## BASIC ABSTRACT:

EP 75864 A UPAB: 20050421

Tetra:fluoro ethyloxyalkyl-silanes (I) are prepared in the liquid phase by the addition reaction of Si-H bond-containing silanes (II), with aliphatic multi-bond-containing tetrafluoroethyloxy -cpds. (III). Novelty consists in

carrying out the reaction in a tubular reactor, and rotating the reaction mixture. The speed of rotation is at least 10 m/min. (II) is used in pref. 10-25 mol % excess w.r.t. the (III)-quantity in the reaction mixture

Pref. (II) can have formula  $\text{HSi}(\text{R}(\text{O})\text{b})\text{aX}_3\text{-a}$  (where X is halogen; a is 0, 1, 2 or 3; b is 0 or 1 and R is monovalent opt. subst. 1-18C hydrocarb. free from aliphatic multiple bonding). Pref. (III) can have formula  $\text{HCF}_2\text{CF}_2\text{OQ}$  (where Q is a 2-6C aliphatic gp. with multiple bonding, especially olefinic double bonding) and are especially tetrafluoroethyl-vinyl- and -allyl ethers.

(I) are used as water- and oil-proofing agents for textiles, paper prods., for surface-finishing inorganic or organic solids and also as foam-inhibitors and lubricants. (I) are obtd. in high yields, without F exchange reactions.

MANUAL CODE: CPI: E05-E02; N02; N05-B

Member(0004)

ABEQ US 4454331 A UPAB 20050421

F4-ethyloxyalkyl silanes are produced by reacting in liquid phase a silane contg. H bound to Si with a F4-ethyloxy cpd. contg. an aliphatic multiple bond. The reaction mixt. is recycled at a rate of at least 10 m/min.. A 10-25% mol.% excess of the silane is used in the reaction mixt.. The reaction is pref. (a) carried out in a tubular reactor, (b) in presence of esp. 10(-3) to 10(-7) mol., of a hydrosilation catalyst per g-atom H bound to Si and (c) at 80-120 deg.C..

Silanes can be produced in high yields while keeping the F exchange reaction to a minimum. The silanes are used to treat textile materials and paper products to impart hydrophobic and oleophilic properties. They can also be used as antifoams and lubricants. (4pp)u

L135 ANSWER 60 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1982-84959E [40] WPIX  
 TITLE: Fluorine-containing silicone monomer preparation - by reacting olefin containing per:fluoroalkyl with di:chloromethyl hydrosilane in presence of palladium catalyst, then treating with alcohol  
 DERWENT CLASS: A41; E11  
 INVENTOR: FUCHIGAMI T; OSHIMA I; YATABE M  
 PATENT ASSIGNEE: (SAGA-C) SAGAMI CHEM RES CENTRE  
 COUNTRY COUNT: 1

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 57140787	A	19820831	(198240)*	JA	5	<--
JP 63038031	B	19880728	(198834)	JA		<--

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 57140787	A	<u>JP 1981-25539</u>	<u>19810225</u>
JP 63038031	B	<u>JP 1981-25539</u>	<u>19810225</u>

PRIORITY APPLN. INFO: JP 1981-25539 19810225

INT. PATENT CLASSIF.:

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-12 [I,A]; C07F0007-18 [I,A];  
 C08G0077-00 [I,A]; C08G0077-00 [I,C]; C08G0077-04 [I,A];  
 C08G0077-06 [I,A]; C08G0077-22 [I,A]

## BASIC ABSTRACT:

JP 57140787 A UPAB: 20050420

Mfr. of fluorine containing silicone monomer of formulaRf-CH(CH3)-Si(OR)2-CH3(I)

(where Rf is 1-20C perfluoroalkyl; R is lower alkyl), comprises reacting olefin containing perfluoro alkyl gp. of formula, Rf-CH:CH2(II) with dichloromethyl hydrosilane in the presence of Pd catalyst to form Rf-CH(CH3)-SiCl2-CH3 and if necessary, treating it with lower alcohol.

(I) has oil resistance, cold resistance and solvent resistance in addition to improved heat resistance, water repellency and insulating properties.

Pref. (II) is 3,3,3-trifluoro-propene, 3,3,4,4,4-pentafluoro-1-butene, 1-perfluoro butyl ethylene, etc. Pd catalyst is pref. (RCN)2PdCl2-X3P, PdCl2-X3P(RCN)2PdCl2, etc. It is used at 0.00001-0.01 mol wrt (II) and can be supplied on a carrier. MANUAL CODE: CPI: A01-A03; E05-E02; N02-F; N05-B

L135 ANSWER 61 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

ACCESSION NUMBER: 1981-60403D [33] WPIX

TITLE: Production of alkoxy-silyl-alkyl ester(s) of di:carboxylic acid(s) - from alkenyl di:ester, hydrogen-halo-silane and alcohol

DERWENT CLASS: A26; E11

INVENTOR: MITCHELL T D

PATENT ASSIGNEE: (GENE-C) GENERAL ELECTRIC CO

COUNTRY COUNT: 7

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 4281145	A	19810728	(198133)*	EN	10	<--
FR 2479832	A	19811009	(198146)	FR		<--
GB 2075533	A	19811118	(198147)	EN		<--
JP 56156292	A	19811202	(198201)	JA		<--
DE 3112060	A	19820304	(198210)	DE		<--
GB 2075533	B	19841017	(198442)	EN		<--
CA 1189081	A	19850618	(198529)#	EN		<--
IT 1136978	B	19860903	(198808)	IT		<--
JP 03014836	B	19910227	(199112)	JA		<--

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 4281145	A	US 1980-136640	19800402
GB 2075533	A	GB 1981-7429	19810310
JP 03014836	B	JP 1981-48499	19810402
CA 1189081	A	CA 1981-376703	19810501
US 4281145	A	US 1980-136640	19800402
DE 3112060	A	DE 1981-3112060	19810327

PRIORITY APPLN. INFO: US 1980-136640 19800402

INT. PATENT CLASSIF.:

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-14  
[I,A]; C07F0007-18 [I,A]

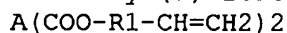
## BASIC ABSTRACT:

US 4281145 A UPAB: 20050419

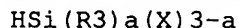
Production of silylated diesters (I) of formula

A(COO-R1-CH2CH2-Si(R3)a(OR2)3-a)2

(where A is cis- or trans-CR=CR, CHR-CHR or R'-substd. phenylene; R is H or 1-8C hydrocarbyl; R' is H, halo or NO<sub>2</sub>; R<sub>1</sub> is a direct bond or a 1-8C divalent hydrocarbon radical; R<sub>2</sub> and R<sub>3</sub> are 1-8C hydrocarbyl; a is 0-2) is carried out by (a) reacting a diester (II) of formula



with a halosilane (III) of formula



(where X is halogen) in the presence of a **Pt catalyst**, and (b) adding an alcohol (IV) of formula R<sub>2</sub>OH to a refluxing solution of the product in an organic solvent over at least 6 hr. with continuous removal of an azeotrope comprising (IV), solvent, water and HX.

Step (b) is effected by adding (IV) below the surface of the refluxing solution and continuously distilling off the azeotrope to minimise the concentration of HX and unreacted (IV) in the soln; thereby (I) are useful as self-bonding additives for heat-curable or room-temperature-vulcanisable silicone rubber compsns. The process gives higher yields than prior art processes (e.g. US 3773817) and avoids the use of hazardous HSi(OMe)<sub>3</sub>. MANUAL CODE: CPI: A06-A00B; A08-M01D; E05-E01; E05-E02; N02-F02; N05-A; N05-D

L135 ANSWER 62 OF 66 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 1981-88201D [48] WPIX  
 TITLE: Functional organo-di:chloro:silane  
 cpds. production - by reacting di:chloro:  
silane with alpha-olefin in presence of  
 homogeneous phosphine complex, and treating prod. with  
 ethylenic cpd.  
 DERWENT CLASS: A41; E11  
 INVENTOR: ASAMI M; MURAOKA T; NAGAI Y; SUGA A; WATANABE H  
 PATENT ASSIGNEE: (CHCC-C) CHISSO CORP  
 COUNTRY COUNT: 1

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 56133297	A	19811019	(198148)*	JA	5	<--
JP 63006075	B	19880208	(198809)	JA		<--

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 56133297 A		<u>JP 1980-35908 19800321</u>	
JP 63006075 B		<u>JP 1980-35908 19800321</u>	

PRIORITY APPLN. INFO: JP 1980-35908 19800321

INT. PATENT CLASSIF.:

IPC RECLASSIF.: B01J0023-00 [I,A]; B01J0023-00 [I,C]; B01J0027-06 [I,C];  
 B01J0027-13 [I,A]; B01J0031-00 [I,A]; B01J0031-00 [I,C];  
 B01J0031-16 [I,C]; B01J0031-24 [I,A]; C07F0007-00 [I,C];  
C07F0007-14 [I,A]; C09K0003-18 [I,A]; C09K0003-18  
 [I,C]; C10M0105-00 [I,C]; C10M0105-76 [I,A]; H01B0003-46  
 [I,A]; H01B0003-46 [I,C]

#### BASIC ABSTRACT:

JP 56133297 A UPAB: 20050419

Method comprises (i) reacting dichlorosilane (I) with 3-20C alpha-olefin (II) in the presence of homogeneous phosphine complex of formula M'X<sub>n</sub>(PR<sub>63</sub>)<sub>m</sub> (III) to form alkyldichlorosilane (IV), and (ii) reacting (IV) with ethylenic cpd. of formula R<sub>3</sub>CH=CH<sub>2</sub> (V) in the presence of H<sub>2</sub>PtCl<sub>6</sub> or homogeneous

phosphine complex of formula  $M'X_n(PR_6)_m$  (VI) to give functional organodichloro-silane of formula  $R_1R_2SiCl_2$  (VII).

In the formulae,  $M'$  is Ru, Rh, Ni or Pt; X is H, halogen, subst. silyl, CO or aromatic hydrocarbon;  $R_6$  is aryl, alkyl or aralkyl; n is 0-4; m is 2-4; 3 up to (n+m) up to 7;  $R_3$  is  $CH_3COOCH_2-$ ,  $Cl_2CH_2Si-$ ,  $CH_3COO-$ , Cl( $CH_2$ ) $r$  where r is 1-10,  $HpCl_gSi-$  where (p + g) is 3, phenyl,  $CH_2=CH-$ ,  $F_3C-$  or  $H_3COOC-$ ;  $M'$  is Ru, Rh, Ni, Pd or Pt;  $R_1$  is 3-20C alkyl;  $R_2$  is radical derived from (V).

Used as an intermediate for synthesis of organic Si cpds., as a comonomer for silicone oil, resin or rubber, etc.. MANUAL CODE: CPI: A01-A03; E05-E02; N02-F; N05-A; N05-B

=> d ibib ab 63-64

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH' - CONTINUE? (Y)/N:y

L135 ANSWER 63 OF 66 JAPIO (C) 2007 JPO on STN

ACCESSION NUMBER: 1993-112581 JAPIO Full-text

TITLE: FLUORINATED ORGANIC SILICON COMPOUND AND ITS PRODUCTION

INVENTOR: KINOSHITA HIROBUMI; YAMAGUCHI KOICHI; SUGANUMA HIDEJI

PATENT ASSIGNEE(S): SHIN ETSU CHEM CO LTD

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 05112581	A	19930507	Heisei	C07F007-12

#### APPLICATION INFORMATION

STN FORMAT: JP 1991-298321 19911017

ORIGINAL: JP03298321 Heisei

PRIORITY APPLN. INFO.: JP 1991-298321 19911017

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1993

AB PURPOSE: To provide a new compound useful as a surface-treating agent for silica, adhesiveness-improving agent for resist, agent for water-repellent and oil-repellent treatment, intermediate for various silicone compounds, etc. CONSTITUTION: The compound of formula I (R is 1-6C alkyl; (a) is 1-7; (b) is 2-8; (c) is 1-3), e.g. the compound of formula II. The compound of formula I can be produced by reacting a chlorosilane of formula III with a fluorinated olefin of formula IV in the presence of a platinum-group metal catalyst such as chloroplatinic acid at 100-120°C. COPYRIGHT: (C)1993, JPO&Japio

L135 ANSWER 64 OF 66 JAPIO (C) 2007 JPO on STN

ACCESSION NUMBER: 1991-077892 JAPIO Full-text

TITLE: FLUORINE-CONTAINING ORGANIC SILICON COMPOUND AND ITS PREPARATION

INVENTOR: OYAMA MASAYUKI; TAKAAI TOSHIO; FUJII HIDENORI; KINAMI HITOSHI

PATENT ASSIGNEE(S): SHIN ETSU CHEM CO LTD

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 03077892	A	19910403	Heisei	C07F007-12



## APPLICATION INFORMATION

STN FORMAT: JP 1989-214663 19890821  
 ORIGINAL: JP01214663 Heisei  
 PRIORITY APPLN. INFO.: JP 1989-214663 19890821  
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined  
 Applications, Vol. 1991

AB NEW MATERIAL: A compound of formula I [R is 1-6C alkyl; (n) is 1-6; (m) is 1-3].  
 EXAMPLE: A compound of formula II. USE: A silica treating agent, a treating agent for the surfaces of glass products and an intermediate for synthesizing fluorine-containing cyclic organic compounds.  
 PREPARATION: A chlorosilane of formula III is reacted with a fluorine-containing olefin of formula IV preferably in a molar ratio of 1:(1.1-1.3) in the presence of 1×10<sup>-5</sup> to 1×10<sup>-4</sup> of a platinum catalyst at 70-110°C for 5-20hr. COPYRIGHT: (C)1991,JPO&Japio

=> d ibib ab 65-66

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH' - CONTINUE? (Y)/N:y

L135 ANSWER 65 OF 66 SCISEARCH COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 1996:688028 SCISEARCH Full-text  
 THE GENUINE ARTICLE: VH424  
 TITLE: Syntheses and reactions of metal organics .21. Syntheses of (1H,1H,2H,2H-polyfluoroalkyl)triisocyanate silanes and surface modification of glass  
 AUTHOR: Yoshino N (Reprint); Kondo Y; Yamauchi T  
 CORPORATE SOURCE: SCI UNIV TOKYO, FAC ENGN, DEPT IND CHEM, SHINJUKU KU, TOKYO 162, JAPAN (Reprint)  
 COUNTRY OF AUTHOR: JAPAN  
 SOURCE: JOURNAL OF FLUORINE CHEMISTRY, (JUL 1996) Vol. 79, No. 1, pp. 87-91.  
 ISSN: 0022-1139.  
 PUBLISHER: ELSEVIER SCIENCE SA LAUSANNE, PO BOX 564, 1001 LAUSANNE 1, SWITZERLAND.  
 DOCUMENT TYPE: Article; Journal  
 FILE SEGMENT: PHYS  
 LANGUAGE: English  
 REFERENCE COUNT: 18  
 ENTRY DATE: Entered STN: 1996  
 Last Updated on STN: 1996

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB Four silane coupling agents having a fluorocarbon chain and three isocyanate groups as reactive centers, i.e. CF<sub>3</sub>(CF<sub>2</sub>)(3)CH<sub>2</sub>CH<sub>2</sub>Si(NCO)(3) (1), CF<sub>3</sub>(CF<sub>2</sub>)(5)CH<sub>2</sub>CH<sub>2</sub>Si(NCO)(3) (2), CF<sub>3</sub>(CF<sub>2</sub>)(7)CH<sub>2</sub>CH<sub>2</sub>Si(NCO)(3) (3) and CF<sub>3</sub>(CF<sub>2</sub>)(9)CH<sub>2</sub>CH<sub>2</sub>Si(NCO)(3) (4), were prepared by the hydrosilylation reaction of trichlorosilane with the corresponding 1H, 1H,2H- polyfluoro-1-alkene [CF<sub>3</sub>(CF<sub>2</sub>)(n)CH=CH<sub>2</sub>, n = 3, 5, 7 and 9] in the presence of hydrogen hexachloroplatinate (IV), followed by reaction with silver cyanate. Their application to the surface modification of glass was attempted. From measurements of the contact angles theta for water and oleic acid against a modified glass surface, it was found that the isocyanate-type silane

coupling agents have a higher surface modification ability toward glass than those of methoxy-type silane coupling agents. The highest contact angle on the glass surface modified by each silane coupling agent was obtained employing both a shorter modification time (1/6) and a lower concentration (1/10) of the silane coupling agent solution in comparison with those of methoxy-type silane coupling agents. The oxidation and acid resistance of the modified glass surface were investigated, and the results of the resistance abilities assessed by measuring the contact angle reduction of water and oleic acid were also higher than those of methoxy-type silane coupling agents.

L135 ANSWER 66 OF 66 SCISEARCH COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 1995:131809 SCISEARCH Full-text

THE GENUINE ARTICLE: PN945

TITLE: SYNTHESSES AND REACTIONS OF METAL ORGANICS .20. SYNTHESSES OF SILANE-COUPLING AGENTS HAVING END-BRANCH FLUOROCARBON CHAIN AND SURFACE MODIFICATION OF GLASS

AUTHOR: YOSHINO N (Reprint); NAKASEKO H; YAMAMOTO Y

CORPORATE SOURCE: SCI UNIV TOKYO, FAC ENGN, DEPT IND CHEM, SHINJUKU KU, TOKYO 162, JAPAN (Reprint)

COUNTRY OF AUTHOR: JAPAN

SOURCE: REACTIVE POLYMERS, (OCT 1994) Vol. 23, No. 2-3, pp. 157-163.

ISSN: 0923-1137.

PUBLISHER: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.

DOCUMENT TYPE: Article; Journal

FILE SEGMENT: PHYS

LANGUAGE: English

REFERENCE COUNT: 10

ENTRY DATE: Entered STN: 1995

Last Updated on STN: 1995

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB Six silane-coupling agents having end-branched fluorocarbon chains: (CF<sub>3</sub>)<sub>2</sub>CF(CF<sub>2</sub>)(4)CH<sub>2</sub>CH<sub>2</sub>Si(CH<sub>3</sub>)(OCH<sub>3</sub>)(2) (1); (CF<sub>3</sub>)<sub>2</sub>CF(CF<sub>2</sub>)(6)CH<sub>2</sub>CH<sub>2</sub>Si(CH<sub>3</sub>)(OCH<sub>3</sub>)(2) (2); (CF<sub>3</sub>)<sub>2</sub>CF(CF<sub>2</sub>)(8)CH<sub>2</sub>CH<sub>2</sub>Si(CH<sub>3</sub>)(OCH<sub>3</sub>)(2) (3); (CF<sub>3</sub>)<sub>2</sub>CF(CF<sub>2</sub>)(4)CH<sub>2</sub>CH<sub>2</sub>Si(OCH<sub>3</sub>)(3) (4); (CF<sub>3</sub>)<sub>2</sub>CF(CF<sub>2</sub>)(6)CH<sub>2</sub>CH<sub>2</sub>Si(OCH<sub>3</sub>)(3) (5); (CF<sub>3</sub>)<sub>2</sub>CF(CF<sub>2</sub>)(8)CH<sub>2</sub>CH<sub>2</sub>Si(OCH<sub>3</sub>)(2) (6); were prepared by the hydrosilylation reaction of dichloro(methyl) silane or trichlorosilane with the corresponding end-branched 1H,1H,2H-polyfluoro-1-alkene ((CF<sub>3</sub>)<sub>2</sub>CF(CF<sub>2</sub>)(n) CH=CH<sub>2</sub>, (n = 4, 6 and 8) in the presence of hydrogen hexachloroplatinate(VI), followed by reaction with sodium methoxide. The application for the surface modification of glass was attempted using these compounds. From measurements of the contact angles theta (degrees) of water and oleic acid against a modified glass surface, it was found that the silane-coupling agents have high modification ability for surface modification. The oxidation resistance of the modified glass surface was also investigated.

=&gt; d que nos 139

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L18      STR
L20      294 SEA FILE=CASREACT SSS FUL L18 ( 2129 REACTIONS)
L21      STR
L23      1 SEA FILE=CASREACT SUB=L20 SSS FUL L21 ( 5 REACTIONS)
L24      STR
L26      2 SEA FILE=CASREACT SUB=L20 SSS FUL L24 ( 6 REACTIONS)
L28      29 SEA FILE=CASREACT ABB=ON PLU=ON L20 AND (PT?/BI,AB OR
        ?PLATIN?/BI,AB OR HPT?/BI,AB)
L29      29 SEA FILE=CASREACT ABB=ON PLU=ON L28 OR L23 OR L26
L31      7 SEA FILE=CASREACT ABB=ON PLU=ON L20 AND (?H2PT?/BI,AB)
L32      31 SEA FILE=CASREACT ABB=ON PLU=ON L31 OR L29
L33      QUE ABB=ON PLU=ON JUST, E?/AU
L34      QUE ABB=ON PLU=ON GIESSLER, S?/AU
L35      QUE ABB=ON PLU=ON JENKNER, P?/AU
L36      QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA
L39      2 SEA FILE=CASREACT ABB=ON PLU=ON L32 AND (L33 OR L34 OR L35
        OR L36)

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=&gt; d. que nos 149

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L18      STR
L33      QUE ABB=ON PLU=ON JUST, E?/AU
L34      QUE ABB=ON PLU=ON GIESSLER, S?/AU
L35      QUE ABB=ON PLU=ON JENKNER, P?/AU
L36      QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA
L43      117 SEA FILE=CHEMINFORMRX SSS FUL L18 ( 385 REACTIONS)
L46      4 SEA FILE=CHEMINFORMRX ABB=ON PLU=ON L43 AND ((PT?/BI,AB OR
        ?PLATIN?/BI,AB OR HPT?/BI,AB) OR (?H2PT?/BI,AB))
L47      0 SEA FILE=CHEMINFORMRX ABB=ON PLU=ON L43 AND ((PT?/TI OR
        ?PLATIN?/TI OR HPT?/TI) OR (?H2PT?/TI))
L48      4 SEA FILE=CHEMINFORMRX ABB=ON PLU=ON L46 OR L47
L49      0 SEA FILE=CHEMINFORMRX ABB=ON PLU=ON L48 AND (L33 OR L34 OR
        L35 OR L36)

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=&gt; d que 186

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L1      1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2006-583553/APPS
L3      TRANSFER PLU=ON L1 1- RN : 9 TERMS
L4      9 SEA FILE=REGISTRY ABB=ON PLU=ON L3
L5      1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND "CL3 H SI"/MF
L6      1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS AND CL/ELS
L7      7 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS
L8      6 SEA FILE=REGISTRY ABB=ON PLU=ON L7 NOT L6
L9      1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND PT/ELS
L27     QUE ABB=ON PLU=ON PT? OR ?PLATIN? OR HPT?
L30     QUE ABB=ON PLU=ON ?H2PT?
L33     QUE ABB=ON PLU=ON JUST, E?/AU
L34     QUE ABB=ON PLU=ON GIESSLER, S?/AU
L35     QUE ABB=ON PLU=ON JENKNER, P?/AU
L36     QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA
L51     QUE ABB=ON PLU=ON HYDROSIL? OR (HYDRO(W)(SILAT? OR SIL
        YLAT?))
L52     QUE ABB=ON PLU=ON ?FLUOROOLEFIN? OR ?FLUOROALKEN? OR (
        (?FLUOR? OR PERFLUOR? OR OLIGOFUOR? OR DIFLUOR? OR TRIFL
        UOR?)(3A) (?OLEFIN? OR ?ALKEN?))
L53     QUE ABB=ON PLU=ON ?CHLOROSIL? OR ((?CHLOR? OR DICHLOR?
        OR TRICHLOR?)(3A) (?SILYL? OR ?SILAN?)) OR (?SILYL?(1T)?C
        HLORID?) OR (?SILYL?(1W)?CHLORID?)

```

L54 QUE ABB=ON PLU=ON ?CL6PT?  
 L55 QUE ABB=ON PLU=ON ?HEXACHLOROPLATIN?  
 L56 QUE ABB=ON PLU=ON ?CATALY?  
 L57 QUE ABB=ON PLU=ON F OR ?FLUORO? OR ?FLUORID?  
 L58 QUE ABB=ON PLU=ON ?FLUORIN?  
 L59 QUE ABB=ON PLU=ON CL OR CHLORINAT? OR ?CHLORO? OR ?CHLORID?  
 L60 QUE ABB=ON PLU=ON SI OR SILICON  
 L61 QUE ABB=ON PLU=ON "ALKENES, REACTIONS"+PFT,OLD,NEW,NT/CT  
 L62 QUE ABB=ON PLU=ON ALKENES+PFT,OLD,NEW/CT (L) (L57 OR L58)  
 L63 QUE ABB=ON PLU=ON L61 (L) (L57 OR L58)  
 L64 QUE ABB=ON PLU=ON HYDROSILYLATION+PFT,OLD,NEW,NT/CT  
 L65 QUE ABB=ON PLU=ON "HYDROSILYLATION CATALYSTS"+PFT,OLD,NEW,NT/CT  
 L67 14 SEA FILE=HCAPLUS ABB=ON PLU=ON L6 (L) (PREP+NT)/RL  
 L68 431 SEA FILE=HCAPLUS ABB=ON PLU=ON L8 (L) (RACT+NT)/RL  
 L69 2354 SEA FILE=HCAPLUS ABB=ON PLU=ON L5 (L) (RACT+NT)/RL  
 L70 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L68 AND L69 AND L67  
 L71 182 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 (L) CAT/RL  
 L72 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L70 AND L71  
 L73 1594 SEA FILE=HCAPLUS ABB=ON PLU=ON ((L62 OR L63)) (L) (RACT+NT)/RL  
 L74 1963 SEA FILE=HCAPLUS ABB=ON PLU=ON L68 OR L73  
 L75 45 SEA FILE=HCAPLUS ABB=ON PLU=ON L74 (L) L51  
 L76 36 SEA FILE=HCAPLUS ABB=ON PLU=ON L74 AND L64  
 L77 31 SEA FILE=HCAPLUS ABB=ON PLU=ON L74 AND L69  
 L78 875 SEA FILE=HCAPLUS ABB=ON PLU=ON L65 (L) (L27 OR L30 OR L54 OR L55)  
 L79 11 SEA FILE=HCAPLUS ABB=ON PLU=ON (L75 OR L76 OR L77) AND L78  
 L80 19 SEA FILE=HCAPLUS ABB=ON PLU=ON (L75 OR L76 OR L77) AND ((PT?/OBI OR ?PLATIN?/OBI OR HPT?/OBI) OR (?H2PT?/OBI) OR (?CL6PT?/OBI) OR (?HEXACHLOROPLATIN?/OBI))  
 L81 24 SEA FILE=HCAPLUS ABB=ON PLU=ON L70 OR L72 OR L79 OR L80  
 L82 24 SEA FILE=HCAPLUS ABB=ON PLU=ON L81 AND (L27 OR L30 OR (L51 OR L52 OR L53 OR L54 OR L55 OR L56 OR L57 OR L58 OR L59 OR L60 OR L61 OR L62 OR L63 OR L64 OR L65))  
 L83 24 SEA FILE=HCAPLUS ABB=ON PLU=ON (L81 OR L82)  
 L84 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L83 AND (L33 OR L34 OR L35 OR L36)  
 L85 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L84 AND L1  
 L86 2 SEA FILE=HCAPLUS ABB=ON PLU=ON (L84 OR L85)

=> d his 198

(FILE 'USPATFULL, USPATOLD, USPAT2' ENTERED AT 13:34:34 ON 25 OCT 2007)

L98 1 S L97 AND L33-L36

=> d que 198

L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2006-583553/APPS  
 L3 TRANSFER PLU=ON L1 1- RN : 9 TERMS  
 L4 9 SEA FILE=REGISTRY ABB=ON PLU=ON L3  
 L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND "CL3 H SI"/MF  
 L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS AND CL/ELS  
 L7 7 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS  
 L8 6 SEA FILE=REGISTRY ABB=ON PLU=ON L7 NOT L6  
 L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND PT/ELS  
 L33 QUE ABB=ON PLU=ON JUST, E?/AU

L34 QUE ABB=ON PLU=ON GIESSLER, S?/AU  
 L35 QUE ABB=ON PLU=ON JENKNER, P?/AU  
 L36 QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA  
 L66 QUE ABB=ON PLU=ON C07F0007-14/IPC  
 L89 243 SEA L66  
 L90 226 SEA L8  
 L91 101 SEA L6  
 L92 7 SEA L89 AND (L90 OR L91)  
 L93 1312 SEA L5  
 L94 6 SEA L92 AND L93  
 L95 81 SEA L9  
 L96 2 SEA L92 AND L95  
 L97 7 SEA L92 OR L94 OR L96  
 L98 1 SEA L97 AND (L33 OR L34 OR L35 OR L36)

=> d que 1118

L27 QUE ABB=ON PLU=ON PT? OR ?PLATIN? OR HPT?  
 L30 QUE ABB=ON PLU=ON ?H2PT?  
 L33 QUE ABB=ON PLU=ON JUST, E?/AU  
 L34 QUE ABB=ON PLU=ON GIESSLER, S?/AU  
 L35 QUE ABB=ON PLU=ON JENKNER, P?/AU  
 L36 QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA  
 L51 QUE ABB=ON PLU=ON HYDROSIL? OR (HYDRO(W)(SILAT? OR SIL  
 YLAT?))  
 L52 QUE ABB=ON PLU=ON ?FLUOROOLEFIN? OR ?FLUOROALKEN? OR (  
 ?FLUOR? OR PERFLUOR? OR OLIGOFUOR? OR DIFLUOR? OR TRIFL  
 UOR?)(3A) (?OLEFIN? OR ?ALKEN?))  
 L53 QUE ABB=ON PLU=ON ?CHLOROSIL? OR ((?CHLOR? OR DICHLOR?  
 OR TRICHLOR?)(3A) (?SILYL? OR ?SILAN?)) OR (?SILYL?(1T)?C  
 HLORID?) OR (?SILYL?(1W)?CHLORID?)  
 L54 QUE ABB=ON PLU=ON ?CL6PT?  
 L55 QUE ABB=ON PLU=ON ?HEXACHLOROPLATIN?  
 L56 QUE ABB=ON PLU=ON ?CATALY?  
 L57 QUE ABB=ON PLU=ON F OR ?FLUORO? OR ?FLUORID?  
 L58 QUE ABB=ON PLU=ON ?FLUORIN?  
 L59 QUE ABB=ON PLU=ON CL OR CHLORINAT? OR ?CHLORO? OR ?CHL  
 ORID?  
 L60 QUE ABB=ON PLU=ON SI OR SILICON  
 L66 QUE ABB=ON PLU=ON C07F0007-14/IPC  
 L101 QUE ABB=ON PLU=ON N02-F/MC  
 L102 QUE ABB=ON PLU=ON (A678(P)Q421)/M0,M1,M2,M3,M4,M5,M6  
 L103 QUE ABB=ON PLU=ON (H721(P)M730(P)(H601 OR H609 OR H685  
 OR H684 OR H689))/M0,M1,M2,M3,M4,M5,M6  
 L104 QUE ABB=ON PLU=ON (B114(P)M730(P)(B751 OR B752))/M0,M1  
 ,M2,M3,M4,M5,M6  
 L105 QUE ABB=ON PLU=ON (B414(P)M720(P)N213(P)(H601 OR H509  
 OR H684 OR H685 OR H689))/M0,M1,M2,M3,M4,M5,M6  
 L106 2 SEA FILE=WPIX ABB=ON PLU=ON L102 AND L103 AND L104 AND L105  
 L107 362 SEA FILE=WPIX ABB=ON PLU=ON C07F0007-14/IPC  
 L108 38 SEA FILE=WPIX ABB=ON PLU=ON L107 AND L105  
 L109 28 SEA FILE=WPIX ABB=ON PLU=ON L108 AND (L101 OR L102)  
 L110 2 SEA FILE=WPIX ABB=ON PLU=ON L103 AND L104 AND L105 AND (L101  
 OR L102)  
 L111 29 SEA FILE=WPIX ABB=ON PLU=ON L106 OR L109 OR L110  
 L112 20 SEA FILE=WPIX ABB=ON PLU=ON L51 (10A) L52  
 L113 2 SEA FILE=WPIX ABB=ON PLU=ON L112 (20A) L53  
 L114 30 SEA FILE=WPIX ABB=ON PLU=ON L111 OR L113  
 L115 28 SEA FILE=WPIX ABB=ON PLU=ON L114 AND L66  
 L116 30 SEA FILE=WPIX ABB=ON PLU=ON L114 OR L115

L117 30 SEA FILE=WPIX ABB=ON PLU=ON L116 AND (L27 OR L30 OR (L51 OR  
L52 OR L53 OR L54 OR L55 OR L56 OR L57 OR L58 OR L59 OR L60))  
L118 6 SEA FILE=WPIX ABB=ON PLU=ON L117 AND (L33 OR L34 OR L35 OR  
L36)

=> d his 1134

(FILE 'MEDLINE, BIOSIS, EMBASE, PASCAL, SCISEARCH, CONFSCI, DISSABS'  
ENTERED AT 13:53:33 ON 25 OCT 2007)

L134 0 S L133 AND L33-L36

=> d que 1134

L27 QUE ABB=ON PLU=ON PT? OR ?PLATIN? OR HPT?  
L30 QUE ABB=ON PLU=ON ?H2PT?  
L33 QUE ABB=ON PLU=ON JUST, E?/AU  
L34 QUE ABB=ON PLU=ON GIESSLER, S?/AU  
L35 QUE ABB=ON PLU=ON JENKNER, P?/AU  
L36 QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS, SO, PA  
L51 QUE ABB=ON PLU=ON HYDROSIL? OR (HYDRO(W) (SILAT? OR SIL  
YLAT?))  
L52 QUE ABB=ON PLU=ON ?FLUOROOLEFIN? OR ?FLUOROALKEN? OR (  
(?FLUOR? OR PERFLUOR? OR OLIGOFUOR? OR DIFLUOR? OR TRIFL  
UOR?) (3A) (?OLEFIN? OR ?ALKEN?))  
L53 QUE ABB=ON PLU=ON ?CHLOROSIL? OR ((?CHLOR? OR DICHLOR?  
OR TRICHLOR?) (3A) (?SILYL? OR ?SILAN?)) OR (?SILYL?(1T)?C  
HLORID?) OR (?SILYL?(1W)?CHLORID?)  
L54 QUE ABB=ON PLU=ON ?CL6PT?  
L55 QUE ABB=ON PLU=ON ?HEXACHLOROPLATIN?  
L56 QUE ABB=ON PLU=ON ?CATALY?  
L57 QUE ABB=ON PLU=ON F OR ?FLUORO? OR ?FLUORID?  
L58 QUE ABB=ON PLU=ON ?FLUORIN?  
L59 QUE ABB=ON PLU=ON CL OR CHLORINAT? OR ?CHLORO? OR ?CHL  
ORID?  
L60 QUE ABB=ON PLU=ON SI OR SILICON  
L130 26 SEA L51(15A) L52  
L131 6 SEA L130 (20A) L53  
L132 5 SEA L131 AND (L27 OR L30 OR L54 OR L55)  
L133 5 SEA L132 AND (L56 OR L60 OR (L57 OR L58) OR L59)  
L134 0 SEA L133 AND (L33 OR L34 OR L35 OR L36)

=> d his 1129

(FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 13:52:34 ON 25 OCT 2007)

L129 0 S L127-L128

=> d que 1129

L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2006-583553/APPS  
L3 TRANSFER PLU=ON L1 1- RN : 9 TERMS  
L4 9 SEA FILE=REGISTRY ABB=ON PLU=ON L3  
L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND "CL3 H SI"/MF  
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS AND CL/ELS  
L7 7 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND F/ELS  
L8 6 SEA FILE=REGISTRY ABB=ON PLU=ON L7 NOT L6  
L125 2 SEA L8  
L126 27 SEA L5  
L127 0 SEA L6  
L128 0 SEA L125 AND L126  
L129 0 SEA (L127 OR L128)

=> dup rem l39 l49 l86 l98 l118 l134 l129

L49 HAS NO ANSWERS

L134 HAS NO ANSWERS

L129 HAS NO ANSWERS

DUPLICATE IS NOT AVAILABLE IN 'CHEMINFORMRX'.

ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE

FILE 'CASREACT' ENTERED AT 14:22:41 ON 25 OCT 2007

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FILE 'HCAPLUS' ENTERED AT 14:22:41 ON 25 OCT 2007

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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FILE 'USPATFULL' ENTERED AT 14:22:41 ON 25 OCT 2007

CA INDEXING COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'WPIX' ENTERED AT 14:22:41 ON 25 OCT 2007

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PROCESSING COMPLETED FOR L39

PROCESSING COMPLETED FOR L49

PROCESSING COMPLETED FOR L86

PROCESSING COMPLETED FOR L98

PROCESSING COMPLETED FOR L118

PROCESSING COMPLETED FOR L134

PROCESSING COMPLETED FOR L129

L136            7 DUP REM L39 L49 L86 L98 L118 L134 L129 (4 DUPLICATES REMOVED)

ANSWERS '1-2' FROM FILE CASREACT

ANSWER '3' FROM FILE USPATFULL

ANSWERS '4-7' FROM FILE WPIX

=> file stnguide

FILE 'STNGUIDE' ENTERED AT 14:22:54 ON 25 OCT 2007

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FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Oct 19, 2007 (20071019/UP).

=&gt; d ibib ab fhit 1-2

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, USPATFULL, WPIX' - CONTINUE? (Y)/N:y

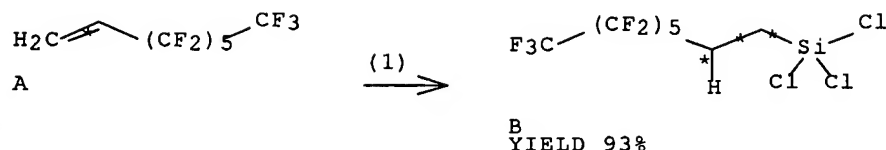
L136 ANSWER 1 OF 7 CASREACT COPYRIGHT 2007 ACS on STN DUPLICATE 1  
 ACCESSION NUMBER: 143:60090 CASREACT Full-text  
 TITLE: Specific process for preparing silicon compounds  
 bearing fluoroalkyl groups by hydrosilylation  
 INVENTOR(S): Just, Eckhard; Giessler, Sabine;  
Jenkner, Peter  
 PATENT ASSIGNEE(S): Degussa A.-G., Germany  
 SOURCE: PCT Int. Appl., 19 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005058919	A1	20050630	WO 2004-EP52608	20041021
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10361893	A1	20050721	DE 2003-10361893	20031219
EP 1694687	A1	20060830	EP 2004-791275	20041021
EP 1694687	B1	20070711		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1894262	A	20070110	CN 2004-80037997	20041021
JP 2007514708	T	20070607	JP 2006-544399	20041021
AT 366736	T	20070815	AT 2004-791275	20041021
US 2007112213	A1	20070517	US 2006-583553	20060619
PRIORITY APPLN. INFO.:			DE 2003-10361893	20031219
			WO 2004-EP52608	20041021

OTHER SOURCE(S): MARPAT 143:60090

AB The present invention relates to a process for preparing silicon compds.  
 bearing fluoroalkyl groups by hydrosilylation of a fluoroolefin in the  
 presence of a hydrosilylation catalyst, which comprises initially charging and  
 heating a hydrogen chlorosilane, then metering in the fluoroolefin and  
 reacting the reaction mixture and subsequently isolating the hydrosilylation  
 product. Thus, platinum divinyltetramethyldisiloxane complex catalyzed  
 hydrosilylation of 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctene with  
 trichlorosilane in xylene at 5.7-7.5 bar at 106°-124° gave 93%  
 trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane in 4.8h.





```

RX(1)      RCT  A  25291-17-2
           RGT  C  10025-78-2 HSiCl3
           PRO  B  78560-45-9
           CAT  81032-58-8 Platinum, bis[1,3-bis(η2-ethenyl)-1,1,3,3-
                tetramethyldisiloxane]-
           SOL  1330-20-7 Xylene
           CON  4.8 hours, 106 - 124 deg C, 5.7 - 7.5 atm
REFERENCE COUNT:      1      THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS
                           RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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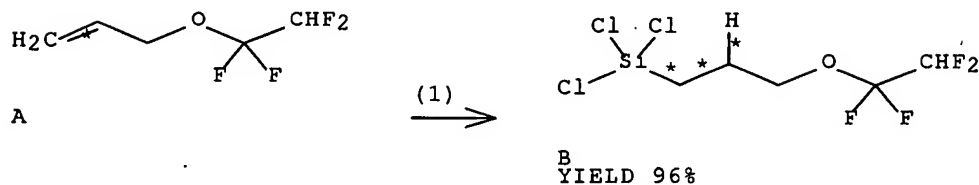
L136 ANSWER 2 OF 7 CASREACT COPYRIGHT 2007 ACS on STN DUPLICATE 2  
ACCESSION NUMBER: 128:308604 CASREACT Full-text  
TITLE: Fluoroalkyl-containing organosilicon compounds and  
their use  
INVENTOR(S): Jenkner, Peter; Frings, Albert-Johannes;  
Horn, Michael; Monkiewicz, Jaroslaw; Standke, Burkhard  
PATENT ASSIGNEE(S): Huls Aktiengesellschaft, Germany; Degussa AG  
SOURCE: Eur. Pat. Appl., 10 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 838467	A1	19980429	EP 1997-115056	19970830
EP 838467	B1	20030402		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19644561	A1	19980430	DE 1996-19644561	19961026
DE 19644561	C2	20031016		
TW 506972	B	20021021	TW 1997-86110794	19970729
JP 10130278	A	19980519	JP 1997-230753	19970827
AT 236170	T	20030415	AT 1997-115056	19970830
ES 2191796	T3	20030916	ES 1997-115056	19970830
US 5869728	A	19990209	US 1997-955290	19971021
CN 1180706	A	19980506	CN 1997-121473	19971023
CA 2219606	A1	19980426	CA 1997-2219606	19971024
US 6255516	B1	20010703	US 1998-207988	19981209
PRIORITY APPLN. INFO.:			DE 1996-19644561	19961026
			US 1997-955290	19971021

AB The preparation of fluoroalkyl group containing organosilicon compds. via reaction of fluoro olefin with silicon-hydrogen bond containing organosilane in the presence of platinum(0) catalyst is described. Thus, Pt (0)-divinyltetramethyldisiloxane catalyzed reaction of 1,1,2,2-tetrafluoroethyl

allyl ether with trichlorosilane in xylene gave 96% 3-(1,1,2,2-tetrafluoroethoxy)propyltrichlorosilane.

RX(1) OF 1      A ==> B



RX(1)      RCT    A 1428-33-7  
              RGT    C 10025-78-2 HSiCl<sub>3</sub>  
              PRO    B 756-76-3  
              CAT    81032-58-8 Platinum, bis[1,3-bis(η<sup>2</sup>-ethenyl)-1,1,3,3-tetramethyldisiloxane]-  
              SOL    1330-20-7 Xylene  
 REFERENCE COUNT:      11      THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib ab hitstr 3

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, USPATFULL, WPIX' - CONTINUE? (Y)/N:y

L136 ANSWER 3 OF 7    USPATFULL on STN

ACCESSION NUMBER:      2001:103025    USPATFULL    Full-text  
 TITLE:                    Process for preparing fluoroalkyl-containing organosilicon compounds, and their use  
 INVENTOR(S):            Jenkner, Peter, Rheinfelden, Germany, Federal Republic of  
                              Frings, Albert-Johannes, Rheinfelden, Germany, Federal Republic of  
                              Horn, Michael, Rheinfelden, Germany, Federal Republic of  
                              Monkiewicz, Jaroslaw, Rheinfelden, Germany, Federal Republic of  
                              Standke, Burkhard, Loerrach, Germany, Federal Republic of  
 PATENT ASSIGNEE(S):    Huels Aktiengesellschaft, Marl, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6255516	B1	20010703
APPLICATION INFO.:	US 1998-207988		19981209 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-955290, filed on 21 Oct 1997, now patented, Pat. No. US 5869728		

NUMBER      DATE

PRIORITY INFORMATION: DE 1996-19644561 19961026  
 DOCUMENT TYPE: Utility  
 FILE SEGMENT: GRANTED  
 PRIMARY EXAMINER: Shaver, Paul F.  
 LEGAL REPRESENTATIVE: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.  
 NUMBER OF CLAIMS: 18  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 504

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

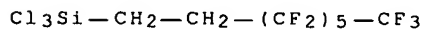
AB Fluoroalkyl organosilicon compounds are prepared by reacting fluoroolefins with organosilicon compounds that contain at least one H-Si group, in the presence of a Pt(0) complex catalyst. Further, fluoroalkylalkoxy organosilicon compounds are prepared by esterifying fluoroalkyl organosilicon compounds. The process proceeds uniformly under mild conditions with high yields and selectivities.

IT 78560-45-9P

(preparation of)

RN 78560-45-9 USPATFULL

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)- (CA INDEX NAME)

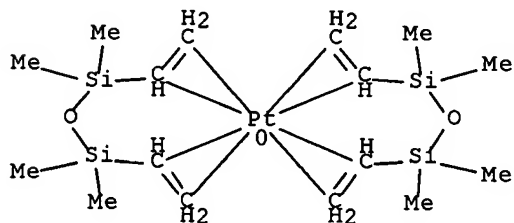


IT 81032-58-8

(preparation of fluoroalkyl-containing organosilicon compds. via platinum catalyzed reaction of silicon-hydrogen bond containing organosilane with fluoro olefin)

RN 81032-58-8 USPATFULL

CN Platinum, bis[1,3-bis(η<sup>2</sup>-ethenyl)-1,1,3,3-tetramethyldisiloxane]- (9CI) (CA INDEX NAME)



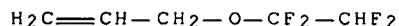
IT 1428-33-7, 1,1,2,2-Tetrafluoroethyl allyl ether

10025-78-2, Trichlorosilane 25291-17-2

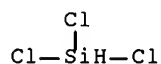
(preparation of fluoroalkyl-containing organosilicon compds. via platinum catalyzed reaction of silicon-hydrogen bond containing organosilane with fluoro olefin)

RN 1428-33-7 USPATFULL

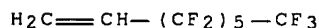
CN 1-Propene, 3-(1,1,2,2-tetrafluoroethoxy)- (CA INDEX NAME)



RN 10025-78-2 USPATFULL  
CN Silane, trichloro- (CA INDEX NAME)



RN 25291-17-2 USPATFULL  
CN 1-Octene, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro- (CA INDEX NAME)



=> diall abeq tech abex fraghitstr 4-7

YOU HAVE REQUESTED DATA FROM FILE 'CASREACT, USPATFULL, WPIX' - CONTINUE? (Y)/N:y

L136 ANSWER 4 OF 7 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
ACCESSION NUMBER: 2003-442609 [42] WPIX  
DOC. NO. CPI: C2003-117421 [42]  
TITLE: Hydrosilylation of unsaturated aliphatic compounds, e.g. for production of chloropropyl-trichloro-silane, involves using a zero-valent platinum complex catalyst modified by addition of organic amide, amine or nitrile  
DERWENT CLASS: E11  
INVENTOR: BARFURTH D; GIESSLER S; MACK H  
PATENT ASSIGNEE: (DEGS-C) DEGUSSA AG  
COUNTRY COUNT: 31

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 10243180	A1	20030424	(200342)*	DE	9[0]	
EP 1306381	A1	20030502	(200342)	DE		
US 20030100784	A1	20030529	(200342)	EN		
US 6858746	B2	20050222	(200515)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 10243180	A1	DE 2002-10243180	20020918
EP 1306381	A1	EP 2002-22052	20021002

US 20030100784 A1  
US 6858746 B2

US 2002-267819 20021010  
US 2002-267819 20021010

PRIORITY APPLN. INFO: DE 2001-10149967 20011010  
DE 2002-10243180 20020918

INT. PATENT CLASSIF.:

IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-14  
[I,A]; C07F0007-18 [I,A]

BASIC ABSTRACT:

DE 10243180 A1 UPAB: 20050903

NOVELTY - A method for the hydrosilylation of unsaturated aliphatic compounds in presence of a zero-valent platinum (Pt(0)) complex catalyst, in which the reaction is also carried out in the presence of organic amide(s), amine(s) or nitrile(s).

USE - For the production of organofunctional organosilicon compounds, e.g. 3-chloropropyl-chlorosilanes which are important intermediates for the production of other organofunctional silanes.

ADVANTAGE - The use of amide, amine or nitrile additives with zero-valent platinum complex catalysts enables the simple and economical hydrosilylation of unsaturated organic compounds to give the required products (e.g. 3-chloropropyl-chlorosilanes) in good yield and purity and with reduced formation of unwanted by-products which may be difficult to separate. MANUAL CODE: CPI: E05-E01; E05-E02; N02-F; N05-D; N05-E03;

N07-D

TECH

ORGANIC CHEMISTRY - Preferred Starting Materials: Unsaturated compounds of formula  $X-(CH_2)_n-C(R_1)=CH_2$  (I) and hydrogen-silanes of formula  $H_4-a-bSiRaYb$  (II);

X = H, Cl, Br, CN, 1-20C perfluoroalkyl,  
 $R_{10}-(CH_2CHR_{10})_y-$ , 2,3-epoxypropyl or  $CH_2=CR_{10}COO-$ ;  
 $R_1 = H$  or 1-4C alkyl;

$n = 0-3$ ;

$y = 0-30$ ;

$R = 1-16C$  alkyl (linear, branched or cyclic) or aryl;

$Y = Cl$ , Br, methoxy or ethoxy;

$a, b = 0, 1, 2$  or 3;

$(a+b) = 1-3$

, especially 3-chloropropene-1 or 3-chloro-2-methyl-propene-1 (I) and trichlorosilane, methyldichlorosilane or dimethylchlorosilane (II).

Preferred Catalyst: A platinum(0)-

divinyltetramethyldisiloxane complex or platinum (0)-divinyltetramethyldisiloxane of formula Pt<sub>2</sub>

$((CH_2=CH)(CH_3)_2Si)_2O)_3$ , preferably as a solution in a ketone or alcohol with a Pt content of 0.1-10 wt%.

Preferred Additives: Amides of formula  $R_2CONR_3R_4$  (III), amines of formula  $R_5-NR_6R_7$  (IV) or nitriles of formula  $R_8-CN$  (V), in which

$R_2 = H$ , 1-16C alkyl (linear, branched or cyclic), 2-8C alkenyl or aryl;

$R_3-R_7 = H$ , 1-8C alkyl, 2-8C alkenyl or aryl;

$R_8 = 1-16C$  alkyl (linear, branched or cyclic)

, especially dimethylformamide, dimethylacetamide, tert.-butylamine, N,N-dimethyl-butylamine, triethylamine or butyronitrile.

Preferred Method: Reaction at 10-200degrees C and 1-50 bar, with a mol ratio of (I):(II) = (20:1)-(1:5), a mol ratio of (III/IV/V):Pt = (10:1)-(1:10) and a mol ratio of Pt:(II) = (1:1010)-(1:102) (based on H-Si groups).

The additive (III/IV/V) is added to the catalyst solution and this mixture is then added to a mixture of (I) and (II).

A preferred process involves reacting 3-chloropropene-1 with a chlorosilane (II) in presence of a catalyst and additive

(III/IV/V) as above (preferably using a solution containing both catalyst and additive), then separating the hydrosilylation product from the reaction mixture and esterifying it with an alcohol (preferably methanol, ethnaol or 2-methoxyethanol.

ABEX EXAMPLE - A mixture of 114.8 g allyl chloride and 172.5 g methyl-dichlorosilane (II) was treated at room temperature (RT) with 0.48 g Karstedt-type catalyst (CPC072 (TM)), i.e. Pt(0)-divinyltetramethyldisiloxane in xylene (2% Pt), modified with 1 mol N,N-dimethylacetamide per mol Pt, using a mol ratio of Pt:(II) = 1:30000. The mixture was then heated to 44-46degrees C, reacted for 4 hours (temperature = 107degrees C after 2 hours) and worked up by distillation, to give a low-boiling fraction (50-55degrees C) followed by 233.6 g (81.1%) chloropropyl-methyl-dichloro-silane (68-70degrees C at 20 mbar) with a GC purity (peak areas) of 97.9%. If the unmodified catalyst was used (no amide), the yield was reduced to 49% (purity 98%), with a selectivity of 50%.

AN.S DCR-200553

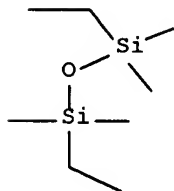
CN.S 1,1,3,3-Tetramethyl-1,3-divinyl-disiloxane platinum (0);  
PLATINUM-1,3-DIVINYL-1,1,3,3-TETRAMETHYLDISILOXANE COMPLEX

SDCN RA00AL

CM 1

Pt

CM 2



L136 ANSWER 5 OF 7 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
ACCESSION NUMBER: 2003-681063 [65] WPIX  
DOC. NO. CPI: C2003-186225 [65]  
TITLE: Production of 3-functionalized organosilanes,  
e.g. trichloro(3-chloropropyl)  
silane, from allyl compound and (un)substituted  
silane in presence of heterogeneous platinum  
catalyst, is carried out in reaction column  
DERWENT CLASS: E11  
INVENTOR: BATZ-SOHN C; SONNENSCHN R  
PATENT ASSIGNEE: (DEGS-C) DEGUSSA AG  
COUNTRY COUNT: 31

PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA	PG	MAIN IPC
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DE 10153795	A1	20030522	(200365)*	DE	5[2]
CN 1417212	A	20030514	(200382)	ZH	
EP 1316557	A1	20030604	(200382)	DE	
JP 2003137892	A	20030514	(200382)	JA	8
EP 1316557	B1	20050112	(200505)	DE	
DE 50201986	G	20050217	(200514)	DE	

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 10153795	A1	DE 2001-10153795	20011031
DE 50201986	G	DE 2002-50201986	20020920
EP 1316557	A1	EP 2002-21004	20020920
EP 1316557	B1	EP 2002-21004	20020920
DE 50201986	G	EP 2002-21004	20020920
JP 2003137892	A	JP 2002-314495	20021029
CN 1417212	A	CN 2002-146974	20021030

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 50201986	Based on	EP 1316557

PRIORITY APPLN. INFO: DE 2001-10153795 20011031

INT. PATENT CLASSIF.:

MAIN: C07F007-08  
 IPC RECLASSIF.: C07F0007-00 [I,C]; C07F0007-08 [I,A]; C07F0007-12 [I,A];  
C07F0007-14 [I,A]; C07F0007-18 [I,A]

## BASIC ABSTRACT:

DE 10153795 A1 UPAB: 20051110

NOVELTY - Production of 3-functionalized organosilanes (I) comprises adding allyl halide, cyanide, thiocyanate, (thio)alcohol, (thio)ether or amine compounds (II) to (un)substituted silanes (III) at 1-25 bar in the presence of a heterogeneous platinum catalyst. The reaction is carried out in a reaction column.

DETAILED DESCRIPTION - Production of 3-functionalized organosilanes (I) comprises adding allyl compounds of formula (II) to (un)substituted silanes of formula (III) at 1-25 bar in the presence of a heterogeneous platinum catalyst. The reaction is carried out in a reaction column.

H<sub>2</sub>C=CH-CH<sub>2</sub>X (II)R<sub>2</sub>R<sub>3</sub>R<sub>4</sub>SiH (III)X = Cl, Br, I, F, CN, SCN, SH, SR, OH, NRR<sub>1</sub>, OR;R, R<sub>1</sub> = 1-6C alkyl or 3-7C alkyl; andR<sub>2</sub>-R<sub>4</sub> = H, halogen, 1-6C (halo)alkyl, 3-6C allyl, 1-4C alkoxy, phenyl, aryl or aralkyl.

USE - The process is used for producing 3-functionalized organosilanes (I), e.g. trichloro(3-chloropropyl)silane.

ADVANTAGE - In preparing trichloro(3-chloropropyl)silane (IA) by reacting allyl chloride (IIA) with trichlorosilane (IIIA), 25-30 mole.% (IIA) is converted to propene, corresponding to (2.33-3):1 selectivity. Reaction under pressure to prevent propene formation results in quantitative reaction of propene with the silane e.g. to propyltrichlorosilane (IV), which uses 28% trichlorosilane with respect to the amount for preparing (IA). Using excess (IIA) interferes with distillation. Reaction in a column avoids these drawbacks and saves capital costs. It greatly increases the selectivity and minimizes (IV) formation. The product mixture is almost free from (IIA).

DESCRIPTION OF DRAWINGS - The drawing shows the reaction column used,

with quantities as given in the example. (Drawing includes non-English language text).

MANUAL CODE: CPI: E05-E01; E05-E02; E11-F; N02-F02; N07-D

ABEX EXAMPLE - The column had 16 theoretical plates, with reaction zone with catalyst packing between separation zones with a condenser (plate 1) at the top and vaporizer (plate 16) at the bottom. It operated with a temperature profile of 90-190 degrees C at 5 bar absolute. There was a slight temperature increase in the main reaction zone (on plates 7 and 8). It was charged with allyl chloride and trichlorosilane. - Allyl chloride reacted completely and a high excess of trichlorosilane could be attained on each plate. With feeds of 100 kg/hour allyl chloride at plate 7 and 216 kg/hour trichlorosilane at plate 9, the reaction gave 314.0 kg/hour product at plate 16 and 2.0 kg/hour propene at plate 1.

AN.S DCR-140

CN.P PLATINUM

SDCN R03247

L136 ANSWER 6 OF 7 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 2002-645730 [70] WPIX  
 DOC. NO. CPI: C2002-182427 [70]  
 TITLE: Production of 3-functionalized propyl silanes comprises reacting allylic compound with large excess of silane compound to increase selectivity  
 DERWENT CLASS: E11  
 INVENTOR: ALBERT M; BATZ-SOHN C; MICHEL R; PANSTER P; VRYENS I; BATZ-ZOEN C; MICHAEL R; PANST P  
 PATENT ASSIGNEE: (DEGS-C) DEGUSSA AG  
 COUNTRY COUNT: 36

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 1229039	A1	20020807	(200270)*	DE	14[3]	
CZ 2002000388	A3	20020911	(200270)	CS		
DE 10104966	A1	20020808	(200270)	DE		
US 6472549	B1	20021029	(200274)	EN		
JP 2002302495	A	20021018	(200301)	JA	8	
CN 1369497	A	20020918	(200303)	ZH		
KR 2002064867	A	20020810	(200309)	KO		
HU 2002000377	A2	20030128	(200323)	HU		
BR 2002000278	A	20030429	(200335)	PT		
EP 1229039	B1	20040102	(200406)	DE		
DE 50200179	G	20040205	(200412)	DE		
ES 2213712	T3	20040901	(200458)	ES		
MX 2002001186	A1	20040501	(200481)	ES		
IL 147949	A	20041215	(200504)	EN		
RU 2275375	C2	20060427	(200637)	RU		
CN 1217949	C	20050907	(200649)	ZH		

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 1229039	A1	EP 2002-682	20020111
DE 10104966	A1	DE 2001-10104966	20010203
DE 50200179	G	DE 2002-500179	20020111
DE 50200179	G	EP 2002-682	20020111



ES 2213712 T3  
 CZ 2002000388 A3  
 IL 147949 A  
 JP 2002302495 A  
 BR 2002000278 A  
 CN 1369497 A  
 HU 2002000377 A2  
 KR 2002064867 A  
 MX 2002001186 A1  
 US 6472549 B1  
 RU 2275375 C2  
 CN 1217949 C

EP 2002-682 20020111  
 CZ 2002-388 20020131  
 IL 2002-147949 20020131  
 JP 2002-24159 20020131  
 BR 2002-278 20020201  
 CN 2002-103254 20020201  
 HU 2002-377 20020201  
 KR 2002-5897 20020201  
 MX 2002-1186 20020201  
 US 2002-60287 20020201  
 RU 2002-102763 20020204  
 CN 2002-103254 20020201

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 50200179 G	Based on	EP 1229039 A
ES 2213712 T3	Based on	EP 1229039 A

PRIORITY APPLN. INFO: DE 2001-10104966 20010203

## INT. PATENT CLASSIF.:

MAIN: C07F007-08; C07F007-12  
 IPC ORIGINAL: C07F0007-00 [I,C]; C07F0007-08 [I,A]; **C07F0007-14**  
 [I,A]  
 IPC RECLASSIF.: C07B0061-00 [I,A]; C07B0061-00 [I,C]; C07F0007-00 [I,C];  
 C07F0007-08 [I,A]; C07F0007-12 [I,A]; **C07F0007-14**  
 [I,A]

## BASIC ABSTRACT:

EP 1229039 A1 UPAB: 20050706

NOVELTY - Production of 3-functionalized propyl silanes (I) by reacting allylic compounds (II) with silanes (III) at 0-200degreesC and 0.8-25 bar in the presence of a platinum catalyst comprises using a (III):(II) molar ratio of 3-100.

DETAILED DESCRIPTION - Production of 3-functionalized propyl silanes (I) by reacting allylic compounds of formula (II) with silanes of formula (III) at 0-200degreesC and 0.8-25 bar in the presence of a platinum catalyst comprises using a (III):(II) molar ratio of 3-100:1

H<sub>2</sub>C=CH-CH<sub>2</sub>X (II)R<sub>2</sub>R<sub>3</sub>R<sub>4</sub>SiH (III)X = Cl, Br, I, F, CN, SCN, SH, SR, OH, NRR<sub>1</sub> or OR;R, R<sub>1</sub> = 1-6C alkyl or 3-7C alkyl (sic); andR<sub>2</sub>-R<sub>4</sub> = H, halogen, 1-6C alkyl, 1-6C haloalkyl, 3-6C allyl (sic), 1-4C alkoxy, phenyl, aryl or aralkyl.

USE - None given.

ADVANTAGE - Using a large excess of (III) suppresses by-product formation, e.g. increasing the selectivity for 3-chloropropyl trichlorosilane (from the reaction of allyl chloride and trichlorosilane) from 74% to up to 85% and reducing propyl trichlorosilane formation by about 50%. MANUAL CODE: CPI:  
 E05-E02B; E05-E02C; E05-E02D; E05-E03; N02-F02

## TECH

ORGANIC CHEMISTRY - Preferred Process: The reaction is effected discontinuously in a stirred tank reactor or continuously in a catalyst-filled tubular reactor. The excess of (III) is provided by mixing (II) and (III) in suitable amounts, by recycling most of the product mixture to the top of a continuously operating tubular reactor, by using a cascade of at least two tubular reactors with injection of (II) between the reactors, and/or by using a single tubular reactor with 1-9 side inlets for (II). The catalyst concentration is 0.1-2000 ppm based on (II). The pressure is 0.8-10 bar.

ABEX SPECIFIC COMPOUNDS - (III) is trichlorosilane, methyldichlorosilane, ethyldichlorosilane, propyldichlorosilane or dimethylchlorosilane.

EXAMPLE - A tubular reactor (40 cm long, 150 ml capacity) filled with a 1% platinum/carbon catalyst (100 g) was flushed with 3-chloropropyl trichlorosilane to wet the catalyst and then supplied at 90degreesC and 2 bar with a mixture of trichlorosilane and allyl chloride in a molar ratio of 2:1. Reactor effluent was recycled to the top of the reactor in a recycle:feed volume ratio of 30:1, giving an overall molar ratio of trichlorosilane to allyl chloride of 25:1. After a run time of 97 hours, a sample was analyzed and found to comprise 30.71 wt.% trichlorosilane, 0.78 wt.% allyl chloride, 7.51 wt.% silicon tetrachloride, 8.05 wt.% propyl trichlorosilane and 52.96 wt.% 3-chloropropyl trichlorosilane, corresponding to 85% selectivity based on allyl chloride.

AN.S DCR-140  
CN.P PLATINUM  
SDCN R03247

L136 ANSWER 7 OF 7 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
ACCESSION NUMBER: 2000-367056 [32] WPIX  
DOC. NO. CPI: C2000-111030 [32]  
TITLE: Production of 3-functional propyl-silane compounds involves reacting functional allyl compounds with hydrogen-silane compounds in presence of a platinum-containing, multi-element catalyst  
DERWENT CLASS: E11  
INVENTOR: BATZ-SOH C; BATZ-SOHN C; KARCH R; KRAEUTER T; LANSINK H G J; LANSINK R H; LANSINK ROTGERINK H G; LANSINK ROTGERINK H G J; PRINZ M; SEEBALD S  
PATENT ASSIGNEE: (DEGS-C) DEGUSSA AG; (DEGS-C) DEGUSSA-HUELS AG  
COUNTRY COUNT: 26

# PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 19857223	C1	20000608	(200032)*	DE	6[0]	
EP 1020473	A2	20000719	(200036)	DE		
JP 2000198791	A	20000718	(200040)	JA	7	
US 6153782	A	20001128	(200063)	EN		
EP 1020473	B1	20050420	(200528)	DE		
DE 59911934	G	20050525	(200538)	DE		

# APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19857223	C1	DE 1998-19857223	19981211
DE 59911934	G	DE 1999-59911934	19991202
EP 1020473	A2	EP 1999-124116	19991202
EP 1020473	B1	EP 1999-124116	19991202
DE 59911934	G	EP 1999-124116	19991202
JP 2000198791	A	JP 1999-352062	19991210
US 6153782	A	US 1999-458101	19991210

# FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 59911934 G	Based on	EP 1020473 A

PRIORITY APPLN. INFO: DE 1998-19857223 19981211

INT. PATENT CLASSIF.:

MAIN: **C07F007-14**  
 IPC RECLASSIF.: B01J0023-42 [I,A]; B01J0023-42 [I,C]; B01J0023-54 [I,C];  
 B01J0023-62 [I,A]; C07B0061-00 [I,A]; C07B0061-00 [I,C];  
 C07F0007-00 [I,C]; C07F0007-12 [I,A]; **C07F0007-14**  
 [I,A]

BASIC ABSTRACT:

DE 19857223 C1 UPAB: 20060116

NOVELTY - A supported multi-element catalyst in which one of the elements is platinum is used as catalyst in a process for the production of 3-function-alised propylsilanes by reacting functional allyl compounds (e.g. allyl halides or allylamines) with organosilanes containing at least one hydrogen attached to silicon.

DETAILED DESCRIPTION - A process for the production of 3-functionalised propylsilanes involves the addition reaction of allyl compounds of formula  $H_2C=CH-CH_2X$  (IV) with silanes of formula  $R_2R_3R_4SiH$  (V), in which

X = Cl, Br, I, F, CN, SCN, SH, SR, OH, NRR1 or OR;

R, R1 = 1-6C alkyl or 3-7C alkyl (sic);

R2-R4 = H, halogen, 1-6C alkyl or haloalkyl, 3-6C allyl, 1-4C alkoxy, phenyl, aryl or aralkyl

, at 0-200degreesC and 0.2-10 bar in presence of a supported multi-element catalyst in which one element is platinum.

USE - For the production of 3-functionalised propylsilanes.

ADVANTAGE - Enables the production of 3-functionalised propylsilanes with good yield and selectivity, without the disadvantages associated with prior-art catalysts, e.g. side reactions leading to the formation of propene, silicon tetrachloride and/or unfunctionalised propylsilanes, over-consumption of trichlorosilane, difficult work-up and costly disposal of by-products.

MANUAL CODE: CPI: E05-E02; E05-E02D; E05-E03; N02; N02-A; N03

Member(0002)

ABEQ EP 1020473 A2 UPAB 20060116

NOVELTY - A supported multi-element catalyst in which one of the elements is platinum is used as catalyst in a process for the production of 3-function-alised propylsilanes by reacting functional allyl compounds (e.g. allyl halides or allylamines) with organosilanes containing at least one hydrogen attached to silicon

DETAILED DESCRIPTION - A process for the production of 3-functionalised propylsilanes involves the addition reaction of allyl compounds of formula  $H_2C=CH-CH_2X$  (IV) with silanes of formula  $R_2R_3R_4SiH$  (V), in which

X = Cl, Br, I, F, CN, SCN, SH, SR, OH, NRR1 or

OR;

R, R1 = 1-6C alkyl or 3-7C alkyl (sic);

R2-R4 = H, halogen, 1-6C alkyl or haloalkyl, 3-6C allyl, 1-4C alkoxy, phenyl, aryl or aralkyl

, at 0-200degreesC and 0.2-10 bar in presence of a supported multi-element catalyst in which one element is platinum

USE - For the production of 3-functionalised propylsilanes.

ADVANTAGE - Enables the production of 3-functionalised propylsilanes with good yield and selectivity, without the disadvantages associated with prior-art catalysts, e.g. side reactions leading to the formation of propene, silicon tetrachloride

and/or unfunctionalised propylsilanes, over-consumption of trichlorosilane, difficult work-up and costly disposal of by-products.

Member(0003)

ABEQ JP 2000198791 A UPAB 20060116

NOVELTY - A supported multi-element catalyst in which one of the elements is platinum is used as catalyst in a process for the production of 3-function-alised propylsilanes by reacting functional allyl compounds (e.g. allyl halides or allylamines) with organosilanes containing at least one hydrogen attached to silicon

DETAILED DESCRIPTION - A process for the production of 3-functionalised propylsilanes involves the addition reaction of allyl compounds of formula  $H_2C=CH-CH_2X$  (IV) with silanes of formula  $R_2R_3R_4SiH$  (V), in which

$X = Cl, Br, I, F, CN, SCN, SH, SR, OH, NRR_1$  or

OR;

$R, R_1 = 1-6C$  alkyl or 3-7C alkyl (sic);

$R_2-R_4 = H, \text{halogen}, 1-6C$  alkyl or haloalkyl, 3-6C allyl, 1-4C alkoxy, phenyl, aryl or aralkyl

, at 0-200degreesC and 0.2-10 bar in presence of a supported multi-element catalyst in which one element is platinum

USE - For the production of 3-functionalised propylsilanes.

ADVANTAGE - Enables the production of 3-functionalised propylsilanes with good yield and selectivity, without the disadvantages associated with prior-art catalysts, e.g. side reactions leading to the formation of propene, silicon tetrachloride and/or unfunctionalised propylsilanes, over-consumption of trichlorosilane, difficult work-up and costly disposal of by-products.

Member(0004)

ABEQ US 6153782 A UPAB 20060116

NOVELTY - A supported multi-element catalyst in which one of the elements is platinum is used as catalyst in a process for the production of 3-function-alised propylsilanes by reacting functional allyl compounds (e.g. allyl halides or allylamines) with organosilanes containing at least one hydrogen attached to silicon

DETAILED DESCRIPTION - A process for the production of 3-functionalised propylsilanes involves the addition reaction of allyl compounds of formula  $H_2C=CH-CH_2X$  (IV) with silanes of formula  $R_2R_3R_4SiH$  (V), in which

$X = Cl, Br, I, F, CN, SCN, SH, SR, OH, NRR_1$  or

OR;

$R, R_1 = 1-6C$  alkyl or 3-7C alkyl (sic);

$R_2-R_4 = H, \text{halogen}, 1-6C$  alkyl or haloalkyl, 3-6C allyl, 1-4C alkoxy, phenyl, aryl or aralkyl

, at 0-200degreesC and 0.2-10 bar in presence of a supported multi-element catalyst in which one element is platinum

USE - For the production of 3-functionalised propylsilanes.

ADVANTAGE - Enables the production of 3-functionalised propylsilanes with good yield and selectivity, without the disadvantages associated with prior-art catalysts, e.g. side reactions leading to the formation of propene, silicon tetrachloride and/or unfunctionalised propylsilanes, over-consumption of trichlorosilane, difficult work-up and costly disposal of

by-products.

TECH

INORGANIC CHEMISTRY - Preferred Catalyst: Other elements in the catalyst may be titanium, zirconium, hafnium, vanadium, chromium, molybdenum, tungsten, manganese, rhenium, iron, ruthenium, osmium, cobalt, rhodium, iridium, nickel, copper, silver, gold, zinc, aluminium, gallium, indium, tin, lead, antimony, bismuth, samarium and/or sulfur. The platinum component is an inorganic, organic or organometallic Pt compound and the support material is activated carbon, coke or graphite, zeolite, deloxane, carbide or an inorganic oxide such as silicon dioxide, aluminium oxide, silicate, titanium dioxide or zirconium dioxide.

ORGANIC CHEMISTRY - Preferred Compounds: Silanes (V) comprise trichlorosilane, methyl-hydrogen-dichlorosilane, propyl-hydrogen-dichlorosilane or dimethyl-hydrogen-chlorosilane.

ABEX EXAMPLE - A mixture of 99 g activated carbon and an aqueous solution containing 1.32 g hexachloroplatinic acid and 1.14 g indium nitrate was dried in a current of air at 100degreesC, reduced with a hydrogen/nitrogen mixture (5% H<sub>2</sub>) at 500degreesC, washed with water and dried in a vacuum oven for 12 hours at 120degreesC to give catalyst 5. A mixture of 100 g 3-chloropropyl-trichlorosilane (Cl-PTS), 76.6 g allyl chloride (ACl), 142.3 g trichlorosilane (TCS) and 2 g catalyst 5 was refluxed with the aid of a cold (-30degreesC) reflux condenser. The temperature of the mixture rose from 40 to a constant level of 110degreesC due to the conversion of low-boiling reactants, after which the reaction was stopped. After condensation of the Cl-PTS used as solvent, GC analysis showed contents of 3.13 wt% TCS, 1.21 wt% ACl, 18.75 wt% silicon tetrachloride, 2.40 wt% propyl-trichlorosilane and 74.51 wt% Cl-PTS, giving a selectivity of 3.19:1, corresponding to a yield of 76.1% Cl-PTS based on ACl

AN.S DCR-2194

CN.P PLATINIC CHLORIDE

SDCN R01998; RA0B7E

SDRN 1998

CM 1

Cl

CM 2

Pt

CM 3

Cl

=> file stnguide

FILE 'STNGUIDE' ENTERED AT 14:24:38 ON 25 OCT 2007

USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT

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FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Oct 19, 2007 (20071019/UP).

=> d his ful

(FILE 'HOME' ENTERED AT 11:05:26 ON 25 OCT 2007)

FILE 'STNGUIDE' ENTERED AT 11:05:28 ON 25 OCT 2007

FILE 'ZCAPLUS' ENTERED AT 11:05:54 ON 25 OCT 2007  
E US2006-583553/APPS

L1 FILE 'HCAPLUS' ENTERED AT 11:06:11 ON 25 OCT 2007  
1 SEA ABB=ON PLU=ON US2006-583553/APPS  
SAVE TEMP L1 NWA553HCAAPP/A

L2 FILE 'WPIX' ENTERED AT 11:06:32 ON 25 OCT 2007  
1 SEA ABB=ON PLU=ON US2006-583553/APPS  
SAVE TEMP L2 NWA553WPIAPP/A

FILE 'STNGUIDE' ENTERED AT 11:06:58 ON 25 OCT 2007  
D QUE L1

FILE 'HCAPLUS' ENTERED AT 11:07:17 ON 25 OCT 2007  
D IBIB ED ABS IND L1

FILE 'STNGUIDE' ENTERED AT 11:07:17 ON 25 OCT 2007  
D QUE L2

FILE 'WPIX' ENTERED AT 11:08:00 ON 25 OCT 2007  
D IALL CODE L2

FILE 'STNGUIDE' ENTERED AT 11:08:02 ON 25 OCT 2007

FILE 'REGISTRY' ENTERED AT 11:08:56 ON 25 OCT 2007

L3 FILE 'HCAPLUS' ENTERED AT 11:08:59 ON 25 OCT 2007  
TRA PLU=ON L1 1- RN : 9 TERMS

L4 FILE 'REGISTRY' ENTERED AT 11:09:02 ON 25 OCT 2007  
9 SEA ABB=ON PLU=ON L3  
SAVE TEMP L4 NWA553REGAPP/A  
D SCAN

L5 1 SEA ABB=ON PLU=ON L4 AND "CL3 H SI"/MF

L6 1 SEA ABB=ON PLU=ON L4 AND F/ELS AND CL/ELS

L7 7 SEA ABB=ON PLU=ON L4 AND F/ELS

L8 6 SEA ABB=ON PLU=ON L7 NOT L6  
D SCAN

L9 1 SEA ABB=ON PLU=ON L4 AND PT/ELS

L10 FILE 'LREGISTRY' ENTERED AT 11:12:26 ON 25 OCT 2007  
STR

FILE 'REGISTRY' ENTERED AT 11:16:21 ON 25 OCT 2007  
D SCAN L6

L11 FILE 'CASREACT' ENTERED AT 11:16:40 ON 25 OCT 2007  
0 SEA SSS SAM L10 ( 0 REACTIONS)  
D QUE STAT

FILE 'STNGUIDE' ENTERED AT 11:18:09 ON 25 OCT 2007

L12 FILE 'LREGISTRY' ENTERED AT 11:18:51 ON 25 OCT 2007  
STR L10

L13 FILE 'CASREACT' ENTERED AT 11:19:05 ON 25 OCT 2007  
0 SEA SSS SAM L12 ( 0 REACTIONS)  
D QUE STAT

FILE 'STNGUIDE' ENTERED AT 11:24:53 ON 25 OCT 2007

FILE 'STNGUIDE' ENTERED AT 11:49:20 ON 25 OCT 2007

L14 FILE 'LREGISTRY' ENTERED AT 11:49:26 ON 25 OCT 2007  
STR

L15 FILE 'CASREACT' ENTERED AT 11:52:39 ON 25 OCT 2007  
1 SEA SSS SAM L14 ( 6 REACTIONS)  
D SCAN

FILE 'STNGUIDE' ENTERED AT 11:53:11 ON 25 OCT 2007  
D QUE STAT

L16 FILE 'LREGISTRY' ENTERED AT 11:53:44 ON 25 OCT 2007  
STR L14

L17 FILE 'CASREACT' ENTERED AT 11:57:12 ON 25 OCT 2007  
13 SEA SSS SAM L16 ( 95 REACTIONS)

L18 FILE 'LREGISTRY' ENTERED AT 11:57:52 ON 25 OCT 2007  
STR L16

L19 FILE 'CASREACT' ENTERED AT 11:58:09 ON 25 OCT 2007  
14 SEA SSS SAM L18 ( 98 REACTIONS)

FILE 'STNGUIDE' ENTERED AT 11:58:18 ON 25 OCT 2007  
D QUE STAT

FILE 'REGISTRY' ENTERED AT 11:58:39 ON 25 OCT 2007  
D SCAN L4

FILE 'STNGUIDE' ENTERED AT 11:58:50 ON 25 OCT 2007

FILE 'CASREACT' ENTERED AT 12:03:24 ON 25 OCT 2007  
D QUE STAT

L20 294 SEA SSS FUL L18 ( 2129 REACTIONS)  
SAVE TEMP L20 NWA553CRXP/A

FILE 'STNGUIDE' ENTERED AT 12:06:21 ON 25 OCT 2007

L21 FILE 'LREGISTRY' ENTERED AT 12:07:18 ON 25 OCT 2007  
STR L18

L22 FILE 'CASREACT' ENTERED AT 12:10:55 ON 25 OCT 2007  
0 SEA SUB=L20 SSS SAM L21 ( 0 REACTIONS)  
D QUE STAT

FILE 'STNGUIDE' ENTERED AT 12:12:06 ON 25 OCT 2007

FILE 'CASREACT' ENTERED AT 12:14:30 ON 25 OCT 2007  
D QUE STAT

L23 1 SEA SUB=L20 SSS FUL L21 ( 5 REACTIONS)

SAVE TEMP L23 NWA553CRXR1/A

FILE 'LREGISTRY' ENTERED AT 12:16:09 ON 25 OCT 2007  
 L24 STR L18

FILE 'CASREACT' ENTERED AT 12:16:51 ON 25 OCT 2007  
 L25 0 SEA SUB=L20 SSS SAM L24 ( 0 REACTIONS)

FILE 'STNGUIDE' ENTERED AT 12:17:41 ON 25 OCT 2007  
 D QUE STAT

FILE 'CASREACT' ENTERED AT 12:20:36 ON 25 OCT 2007  
 L26 2 SEA SUB=L20 SSS FUL L24 ( 6 REACTIONS)  
 SAVE TEMP L26 NWA553CRXR2/A  
 D SCAN  
 D QUE STAT  
 D QUE STAT L23  
 D SCAN L23

FILE 'STNGUIDE' ENTERED AT 12:24:39 ON 25 OCT 2007

FILE 'ZCAPLUS' ENTERED AT 12:31:48 ON 25 OCT 2007  
 L27 QUE ABB=ON PLU=ON PT? OR ?PLATIN? OR HPT?

FILE 'CASREACT' ENTERED AT 12:32:27 ON 25 OCT 2007  
 L\*\*\* DEL 0 S L20 AND L27/IA  
 L28 29 SEA ABB=ON PLU=ON L20 AND (PT?/BI,AB OR ?PLATIN?/BI,AB OR  
 HPT?/BI,AB)  
 L29 29 SEA ABB=ON PLU=ON L28 OR L23 OR L26

FILE 'ZCAPLUS' ENTERED AT 12:35:21 ON 25 OCT 2007  
 L30 QUE ABB=ON PLU=ON ?H2PT?

FILE 'CASREACT' ENTERED AT 12:35:40 ON 25 OCT 2007  
 L31 7 SEA ABB=ON PLU=ON L20 AND (?H2PT?/BI,AB)  
 L32 31 SEA ABB=ON PLU=ON L31 OR L29

FILE 'STNGUIDE' ENTERED AT 12:36:13 ON 25 OCT 2007

FILE 'ZCAPLUS' ENTERED AT 12:36:59 ON 25 OCT 2007  
 L33 QUE ABB=ON PLU=ON JUST, E?/AU  
 L34 QUE ABB=ON PLU=ON GIESSLER, S?/AU  
 L35 QUE ABB=ON PLU=ON JENKNER, P?/AU  
 L36 QUE ABB=ON PLU=ON (DEGUSSA OR (DE(W)GUSSA))/CS,SO,PA  
 L37 QUE ABB=ON PLU=ON AY<2005 OR PY<2005 OR PRY<2005 OR MY<2005  
 OR REVIEW/DT  
 L38 QUE ABB=ON PLU=ON AY<2005 OR PY<2005 OR PRY<2005

FILE 'CASREACT' ENTERED AT 12:39:04 ON 25 OCT 2007  
 L39 2 SEA ABB=ON PLU=ON L32 AND (L33 OR L34 OR L35 OR L36)  
 SAVE TEMP L39 NWA553CRXINV/A  
 L40 29 SEA ABB=ON PLU=ON L32 NOT L39  
 L41 26 SEA ABB=ON PLU=ON L40 AND L37  
 SAVE TEMP L41 NWA553CRXB/A

FILE 'STNGUIDE' ENTERED AT 12:40:10 ON 25 OCT 2007  
 D SAVED

FILE 'CHEMINFORMRX' ENTERED AT 12:41:24 ON 25 OCT 2007  
 D QUE L20



L42 6 SEA SSS SAM L18 ( 17 REACTIONS)  
D QUE STAT

L43 117 SEA SSS FUL L18 ( 385 REACTIONS)  
SAVE TEMP L43 NWA553CHMP/A  
D QUE L26

L44 0 SEA SUB=L43 SSS SAM L24 ( 0 REACTIONS)  
D QUE STAT

L45 0 SEA SUB=L43 SSS FUL L24 ( 0 REACTIONS)  
SAVE TEMP L45 NWA553CHMR1/A

L46 4 SEA ABB=ON PLU=ON L43 AND ((PT?/BI,AB OR ?PLATIN?/BI,AB OR  
HPT?/BI,AB) OR (?H2PT?/BI,AB))  
D SCAN

L47 0 SEA ABB=ON PLU=ON L43 AND ((PT?/TI OR ?PLATIN?/TI OR  
HPT?/TI) OR (?H2PT?/TI))

L48 4 SEA ABB=ON PLU=ON L46 OR L47

L49 0 SEA ABB=ON PLU=ON L48 AND (L33 OR L34 OR L35 OR L36)

L50 4 SEA ABB=ON PLU=ON L48 AND L37  
SAVE TEMP L50 NWA553CHMB/A

FILE 'STNGUIDE' ENTERED AT 12:47:14 ON 25 OCT 2007  
D SAVED

FILE 'ZCAPLUS' ENTERED AT 12:48:56 ON 25 OCT 2007

L51 QUE ABB=ON PLU=ON HYDROSIL? OR (HYDRO(W) (SILAT? OR SILYLAT?))

L52 QUE ABB=ON PLU=ON ?FLUOROOLEFIN? OR ?FLUOROALKEN? OR  
((?FLUOR? OR PERFLUOR? OR OLIGOFUOR? OR DIFLUOR? OR TRIFLUOR?)  
(3A) (?OLEFIN? OR ?ALKEN?))

L53 QUE ABB=ON PLU=ON ?CHLOROSIL? OR ((?CHLOR? OR DICHLOR? OR  
TRICHLOR?) (3A) (?SILYL? OR ?SILAN?)) OR (?SILYL?(1T)?CHLORID?)  
OR (?SILYL?(1W)?CHLORID?)  
D QUE L27  
D QUE L30

L54 QUE ABB=ON PLU=ON ?CL6PT?

L55 QUE ABB=ON PLU=ON ?HEXACHLOROPLATIN?

L56 QUE ABB=ON PLU=ON ?CATALY?

L57 QUE ABB=ON PLU=ON F OR ?FLUORO? OR ?FLUORID?

L58 QUE ABB=ON PLU=ON ?FLUORIN?

L59 QUE ABB=ON PLU=ON CL OR CHLORINAT? OR ?CHLORO? OR ?CHLORID?

L60 QUE ABB=ON PLU=ON SI OR SILICON

L61 QUE ABB=ON PLU=ON "ALKENES, REACTIONS"+PFT,OLD,NEW,NT/CT

L62 QUE ABB=ON PLU=ON ALKENES+PFT,OLD,NEW/CT (L) (L57 OR L58)

L63 QUE ABB=ON PLU=ON L61 (L) (L57 OR L58)

L64 QUE ABB=ON PLU=ON HYDROSILYLATION+PFT,OLD,NEW,NT/CT

L65 QUE ABB=ON PLU=ON "HYDROSILYLATION CATALYSTS"+PFT,OLD,NEW,NT/  
CT

L66 QUE ABB=ON PLU=ON C07F0007-14/IPC

FILE 'HCAPLUS' ENTERED AT 13:05:15 ON 25 OCT 2007

L67 14 SEA ABB=ON PLU=ON L6 (L) (PREP+NT)/RL

FILE 'STNGUIDE' ENTERED AT 13:06:04 ON 25 OCT 2007

FILE 'HCAPLUS' ENTERED AT 13:06:28 ON 25 OCT 2007

L68 431 SEA ABB=ON PLU=ON L8 (L) (RACT+NT)/RL

L69 2354 SEA ABB=ON PLU=ON L5 (L) (RACT+NT)/RL

L70 9 SEA ABB=ON PLU=ON L68 AND L69 AND L67

L71 182 SEA ABB=ON PLU=ON L9 (L) CAT/RL

L72 2 SEA ABB=ON PLU=ON L70 AND L71

L73 1594 SEA ABB=ON PLU=ON ((L62 OR L63)) (L) (RACT+NT)/RL

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L74 1963 SEA ABB=ON PLU=ON L68 OR L73  
L75 45 SEA ABB=ON PLU=ON L74 (L) L51  
L76 36 SEA ABB=ON PLU=ON L74 AND L64  
L77 31 SEA ABB=ON PLU=ON L74 AND L69  
L78 875 SEA ABB=ON PLU=ON L65 (L) (L27 OR L30 OR L54 OR L55)  
L79 11 SEA ABB=ON PLU=ON (L75 OR L76 OR L77) AND L78  
L80 19 SEA ABB=ON PLU=ON (L75 OR L76 OR L77) AND ((PT?/OBI OR  
?PLATIN?/OBI OR HPT?/OBI) OR (?H2PT?/OBI) OR (?CL6PT?/OBI) OR  
(?HEXACHLOROPLATIN?/OBI))  
L81 24 SEA ABB=ON PLU=ON L70 OR L72 OR L79 OR L80  
L82 24 SEA ABB=ON PLU=ON L81 AND (L27 OR L30 OR (L51 OR L52 OR L53  
OR L54 OR L55 OR L56 OR L57 OR L58 OR L59 OR L60 OR L61 OR L62  
OR L63 OR L64 OR L65))  
L83 24 SEA ABB=ON PLU=ON (L81 OR L82)  
L84 2 SEA ABB=ON PLU=ON L83 AND (L33 OR L34 OR L35 OR L36)  
L85 1 SEA ABB=ON PLU=ON L84 AND L1  
L86 2 SEA ABB=ON PLU=ON (L84 OR L85)  
SAVE TEMP L86 NWA553HCAINV/A

FILE 'STNGUIDE' ENTERED AT 13:14:02 ON 25 OCT 2007

FILE 'HCAPLUS' ENTERED AT 13:14:05 ON 25 OCT 2007

L87 22 SEA ABB=ON PLU=ON L83 NOT L86  
L88 18 SEA ABB=ON PLU=ON L87 AND L37  
SAVE TEMP L88 NWA553HCAB/A

FILE 'STNGUIDE' ENTERED AT 13:16:02 ON 25 OCT 2007  
D SAVED

FILE 'STNGUIDE' ENTERED AT 13:34:20 ON 25 OCT 2007

FILE 'USPATFULL, USPATOLD, USPAT2' ENTERED AT 13:34:34 ON 25 OCT 2007

L89 243 SEA ABB=ON PLU=ON L66  
L90 226 SEA ABB=ON PLU=ON L8  
L91 101 SEA ABB=ON PLU=ON L6  
L92 7 SEA ABB=ON PLU=ON L89 AND (L90 OR L91)  
L93 1312 SEA ABB=ON PLU=ON L5  
L94 6 SEA ABB=ON PLU=ON L92 AND L93  
L95 81 SEA ABB=ON PLU=ON L9  
L96 2 SEA ABB=ON PLU=ON L92 AND L95  
L97 7 SEA ABB=ON PLU=ON L92 OR L94 OR L96  
L98 1 SEA ABB=ON PLU=ON L97 AND (L33 OR L34 OR L35 OR L36)  
SAVE TEMP L98 NWA553USPINV/A  
L99 6 SEA ABB=ON PLU=ON L97 NOT L98  
L100 6 SEA ABB=ON PLU=ON L99 AND L38  
SAVE TEMP L100 NWA553USPB/A

FILE 'STNGUIDE' ENTERED AT 13:37:14 ON 25 OCT 2007  
D SAVED

FILE 'LWPI' ENTERED AT 13:37:33 ON 25 OCT 2007

L101 QUE ABB=ON PLU=ON N02-F/MC  
L102 QUE ABB=ON PLU=ON (A678(P)Q421)/M0,M1,M2,M3,M4,M5,M6  
L103 QUE ABB=ON PLU=ON (H721(P)M730(P)(H601 OR H609 OR H685 OR  
H684 OR H689))/M0,M1,M2,M3,M4,M5,M6  
L104 QUE ABB=ON PLU=ON (B114(P)M730(P)(B751 OR B752))/M0,M1,M2,M3,  
M4,M5,M6  
L105 QUE ABB=ON PLU=ON (B414(P)M720(P)N213(P)(H601 OR H509 OR  
H684 OR H685 OR H689))/M0,M1,M2,M3,M4,M5,M6

FILE 'WPIX' ENTERED AT 13:41:09 ON 25 OCT 2007

L106 2 SEA ABB=ON PLU=ON L102 AND L103 AND L104 AND L105  
 L107 362 SEA ABB=ON PLU=ON C07F0007-14/IPC  
 L\*\*\* DEL 128 S L107 AND L102  
 L108 38 SEA ABB=ON PLU=ON L107 AND L105  
 L109 28 SEA ABB=ON PLU=ON L108 AND (L101 OR L102)  
 L110 2 SEA ABB=ON PLU=ON L103 AND L104 AND L105 AND (L101 OR L102)  
 L111 29 SEA ABB=ON PLU=ON L106 OR L109 OR L110  
 L112 20 SEA ABB=ON PLU=ON L51 (10A) L52  
 L113 2 SEA ABB=ON PLU=ON L112 (20A) L53  
 L114 30 SEA ABB=ON PLU=ON L111 OR L113  
 L115 28 SEA ABB=ON PLU=ON L114 AND L66  
 L116 30 SEA ABB=ON PLU=ON L114 OR L115  
 L117 30 SEA ABB=ON PLU=ON L116 AND (L27 OR L30 OR (L51 OR L52 OR L53  
 OR L54 OR L55 OR L56 OR L57 OR L58 OR L59 OR L60))  
 L118 6 SEA ABB=ON PLU=ON L117 AND (L33 OR L34 OR L35 OR L36)  
 SAVE TEMP L118 NWA553WPIINV/A  
 L119 24 SEA ABB=ON PLU=ON L117 NOT L118  
 L120 24 SEA ABB=ON PLU=ON L119 AND L38  
 SAVE TEMP L120 NWA553WPB/A  
 D TRI 20-24  
 D SAVED

FILE 'JAPIO' ENTERED AT 13:50:55 ON 25 OCT 2007

L121 88 SEA ABB=ON PLU=ON C07F0007-14/IPC  
 L122 41 SEA ABB=ON PLU=ON L121 AND L53  
 L123 2 SEA ABB=ON PLU=ON L121 AND L52  
 L124 2 SEA ABB=ON PLU=ON L122 AND L123  
 D BIB L124 1-2  
 SAVE TEMP L124 NWA553JAPB/A

FILE 'STNGUIDE' ENTERED AT 13:52:26 ON 25 OCT 2007

FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 13:52:34 ON 25 OCT 2007

L125 2 SEA ABB=ON PLU=ON L8  
 L126 27 SEA ABB=ON PLU=ON L5  
 L127 0 SEA ABB=ON PLU=ON L6  
 L128 0 SEA ABB=ON PLU=ON L125 AND L126  
 L129 0 SEA ABB=ON PLU=ON (L127 OR L128)

FILE 'STNGUIDE' ENTERED AT 13:53:15 ON 25 OCT 2007

FILE 'MEDLINE, BIOSIS, EMBASE, PASCAL, SCISEARCH, CONFSCI, DISSABS' ENTERED AT 13:53:33 ON 25 OCT 2007

L130 26 SEA ABB=ON PLU=ON L51(15A) L52  
 L131 6 SEA ABB=ON PLU=ON L130 (20A) L53  
 L132 5 SEA ABB=ON PLU=ON L131 AND (L27 OR L30 OR L54 OR L55)  
 L133 5 SEA ABB=ON PLU=ON L132 AND (L56 OR L60 OR (L57 OR L58) OR  
 L59)  
 L134 0 SEA ABB=ON PLU=ON L133 AND (L33 OR L34 OR L35 OR L36)  
 D SCAN L133  
 SAVE TEMP L133 NWA553MULB/A

FILE 'STNGUIDE' ENTERED AT 14:02:45 ON 25 OCT 2007

D SAVED  
 D QUE STAT L20  
 D QUE STAT L23  
 D QUE STAT L26  
 D QUE NOS L32  
 D QUE NOS L41

D QUE STAT L43  
D QUE STAT L45  
D QUE NOS L50  
D QUE L88  
D QUE L100  
D QUE L120  
D QUE L133  
D QUE L129  
D QUE L124

FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:08:14 ON 25 OCT 2007

L135 66 DUP REM L41 L50 L88 L100 L120 L124 L133 L129 (19 DUPLICATES REM  
ANSWERS '1-26' FROM FILE CASREACT  
ANSWERS '27-30' FROM FILE CHEMINFORMRX  
ANSWERS '31-37' FROM FILE HCAPLUS  
ANSWERS '38-39' FROM FILE USPATFULL  
ANSWERS '40-62' FROM FILE WPIX  
ANSWERS '63-64' FROM FILE JAPIO  
ANSWERS '65-66' FROM FILE SCISEARCH  
SAVE TEMP L135 NWA553MAIN/A

FILE 'STNGUIDE' ENTERED AT 14:08:36 ON 25 OCT 2007

FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:09:26 ON 25 OCT 2007  
D IBIB ABS FHIT

FILE 'STNGUIDE' ENTERED AT 14:09:31 ON 25 OCT 2007

FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:09:50 ON 25 OCT 2007  
D IBIB ABS FHIT 2-26

FILE 'STNGUIDE' ENTERED AT 14:10:20 ON 25 OCT 2007

FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:13:58 ON 25 OCT 2007  
D BIB AB FHIT 27-30

FILE 'STNGUIDE' ENTERED AT 14:14:01 ON 25 OCT 2007

FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:14:53 ON 25 OCT 2007  
D IBIB ED ABS HITIND HITSTR 31-37

FILE 'STNGUIDE' ENTERED AT 14:14:56 ON 25 OCT 2007

FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:15:38 ON 25 OCT 2007  
D IBIB AB HITSTR 38-39

FILE 'STNGUIDE' ENTERED AT 14:15:40 ON 25 OCT 2007

FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:16:34 ON 25 OCT 2007  
D IALL ABEQ TECH ABEX FRAGHITSTR 40-62

FILE 'STNGUIDE' ENTERED AT 14:16:52 ON 25 OCT 2007

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FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:19:30 ON 25 OCT 2007

D IBIB AB 63-64

FILE 'STNGUIDE' ENTERED AT 14:19:36 ON 25 OCT 2007

FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:20:06 ON 25 OCT 2007

D IBIB AB 5-66

FILE 'STNGUIDE' ENTERED AT 14:20:15 ON 25 OCT 2007

FILE 'CASREACT, CHEMINFORMRX, HCAPLUS, USPATFULL, WPIX, JAPIO, SCISEARCH'  
ENTERED AT 14:20:45 ON 25 OCT 2007

D IBIB AB 65-66

FILE 'STNGUIDE' ENTERED AT 14:20:46 ON 25 OCT 2007

D QUE NOS L39

D QUE NOS L49

D QUE L86

D QUE L98

D QUE L118

D QUE L134

D QUE L129

FILE 'CASREACT, HCAPLUS, USPATFULL, WPIX' ENTERED AT 14:22:41 ON 25 OCT  
2007

L136           7 DUP REM L39 L49 L86 L98 L118 L134 L129 (4 DUPLICATES REMOVED)  
              ANSWERS '1-2' FROM FILE CASREACT  
              ANSWER '3' FROM FILE USPATFULL  
              ANSWERS '4-7' FROM FILE WPIX  
              SAVE TEMP L136 NWA553INV/A

FILE 'STNGUIDE' ENTERED AT 14:22:54 ON 25 OCT 2007

FILE 'CASREACT, USPATFULL, WPIX' ENTERED AT 14:23:14 ON 25 OCT 2007

D IBIB AB FHIT 1-2

FILE 'STNGUIDE' ENTERED AT 14:23:17 ON 25 OCT 2007

FILE 'CASREACT, USPATFULL, WPIX' ENTERED AT 14:23:56 ON 25 OCT 2007

D IBIB AB HITSTR 3

FILE 'STNGUIDE' ENTERED AT 14:23:58 ON 25 OCT 2007

FILE 'CASREACT, USPATFULL, WPIX' ENTERED AT 14:24:27 ON 25 OCT 2007

D IALL ABEQ TECH ABEX FRAGHITSTR 4-7

FILE 'STNGUIDE' ENTERED AT 14:24:32 ON 25 OCT 2007

FILE 'STNGUIDE' ENTERED AT 14:24:38 ON 25 OCT 2007

FILE HOME

FILE STNGUIDE

FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Oct 19, 2007 (20071019/UP).

FILE ZCAPLUS

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FILE COVERS 1907 - 25 Oct 2007 VOL 147 ISS 18  
FILE LAST UPDATED: 24 Oct 2007 (20071024/ED)

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FILE COVERS 1907 - 25 Oct 2007 VOL 147 ISS 18  
FILE LAST UPDATED: 24 Oct 2007 (20071024/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

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#### FILE WPIX

FILE LAST UPDATED: 18 OCT 2007 <20071018/UP>  
MOST RECENT THOMSON SCIENTIFIC UPDATE: 200767 <200767/DW>  
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> Now containing more than 1 million chemical structures in DCR <<<

>>> IPC Reform backfile reclassification has been loaded to September 6th 2007. No update date (UP) has been created for the reclassified documents, but they can be identified by 20060101/UPIC and 20061231/UPIC, 20070601/UPIC and 20071001/UPIC. <<<

>>> Indian patent publication number format enhanced in DWPI - see NEWS <<

FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,  
PLEASE VISIT:

[http://www.stn-international.de/training\\_center/patents/stn\\_guide.pdf](http://www.stn-international.de/training_center/patents/stn_guide.pdf)

FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE  
<http://scientific.thomson.com/support/patents/coverage/latestupdates/>

>>> FOR DETAILS ON THE NEW AND ENHANCED DERWENT WORLD PATENTS INDEX  
PLEASE SEE  
[http://www.stn-international.de/stndatabases/details/dwpi\\_r.html](http://www.stn-international.de/stndatabases/details/dwpi_r.html) <<<

## FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 23 OCT 2007 HIGHEST RN 951288-30-5  
DICTIONARY FILE UPDATES: 23 OCT 2007 HIGHEST RN 951288-30-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

## FILE LREGISTRY

LREGISTRY IS A STATIC LEARNING FILE

NEW CAS INFORMATION USE POLICIES, ENTER HELP USAGETERMS FOR DETAILS.

## FILE CASREACT

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for records published or updated in Chemical Abstracts after December  
26, 1996), unless otherwise indicated in the original publications.

FILE CONTENT:1840 - 20 Oct 2007 VOL 147 ISS 18

New CAS Information Use Policies, enter HELP USAGETERMS for details.

```
*****
*
*      CASREACT now has more than 13.8 million reactions
*
*****
```

Some CASREACT records are derived from the ZIC/VINITI database (1974-1999)  
provided by InfoChem, INPI data prior to 1986, and Biotransformations  
database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance  
identification.

## FILE CHEMINFORMRX

FILE LAST UPDATED: 12 SEP 2007 <20070912/UP>

>>> CAS Registry Numbers are available for  
substances prior to 1995 <<<

## FILE USPATFULL

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 23 Oct 2007 (20071023/PD)  
FILE LAST UPDATED: 23 Oct 2007 (20071023/ED)  
HIGHEST GRANTED PATENT NUMBER: US7287284  
HIGHEST APPLICATION PUBLICATION NUMBER: US2007245440  
CA INDEXING IS CURRENT THROUGH 23 Oct 2007 (20071023/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 23 Oct 2007 (20071023/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2007  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2007

## FILE USPATOLD

FILE COVERS U.S. PATENTS 1790-1975  
Produced using data provided by Univentio.

This database was created using Optical Character Recognition (OCR) technology. For this reason, some characters may be missing or mistranslated. In order to improve searchability and retrieval, CA indexing information has been added to the Title, Inventor, and Patent Assignee fields where possible. Please see HELP CASDATA for more information on the availability of CAS indexing in this database.

## FILE USPAT2

FILE COVERS 2001 TO PUBLICATION DATE: 25 Oct 2007 (20071025/PD)  
FILE LAST UPDATED: 25 Oct 2007 (20071025/ED)  
HIGHEST GRANTED PATENT NUMBER: US2005118207  
HIGHEST APPLICATION PUBLICATION NUMBER: US2007250974  
CA INDEXING IS CURRENT THROUGH 25 Oct 2007 (20071025/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 25 Oct 2007 (20071025/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2007  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2007

## FILE LWPI

LWPI IS A STATIC LEARNING FILE

>>> PATENT DRAWINGS AVAILABLE FOR DISPLAY <<<

## FILE JAPIO

FILE LAST UPDATED: 25 SEP 2007 <20070925/UP>  
FILE COVERS APRIL 1973 TO JUNE 28, 2007

>>> GRAPHIC IMAGES AVAILABLE <<<

## FILE MEDLINE

FILE LAST UPDATED: 24 Oct 2007 (20071024/UP). FILE COVERS 1950 TO DATE.

This file contains CAS Registry Numbers for easy and accurate substance identification.

## FILE BIOSIS

FILE COVERS 1926 TO DATE.  
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT  
FROM JANUARY 1926 TO DATE.

RECORDS LAST ADDED: 24 October 2007 (20071024/ED)

BIOSIS has been augmented with 1.8 million archival records from 1926 through 1968. These records have been re-indexed to match current BIOSIS indexing.



## FILE EMBASE

FILE COVERS 1974 TO 25 Oct 2007 (20071025/ED)

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

## FILE PASCAL

FILE LAST UPDATED: 22 OCT 2007 &lt;20071022/UP&gt;

FILE COVERS 1977 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE  
IN THE BASIC INDEX (/BI) FIELD <<<

## FILE SCISEARCH

FILE COVERS 1974 TO 18 Oct 2007 (20071018/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

## FILE CONFSCI

FILE COVERS 1973 TO 18 Oct 2007 (20071018/ED)

CSA has resumed updates, see NEWS FILE

## FILE DISSABS

FILE COVERS 1861 TO 26 SEP 2007 (20070926/ED)

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